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PATENT

Docket No. 4056-4000

Express Mail Label No. EL 704 520 615 US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

UTILITY APPLICATION AND APPLICATION FEE TRANSMITTAL (1.53(b))

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JCS918 U.S. PTO
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Sir:

Transmitted herewith for filing is the patent application of

Named Inventor(s) and
Address(es):

Adam Roth, Geoffrey O'Sullivan, Barclay A. Dunn residing at 176 Ludlow Street, Apt 2EF, New York, New York 10002; 116 Suffolk Street, Apt. 2, New York, New York 10002; and 15 W. 12 Street, #10A, New York, New York 10011, respectively.

For:

ELECTRONIC MAIL METHOD AND SYSTEM USING ASSOCIATED AUDIO
AND VISUAL TECHNIQUES

Enclosed are:

☒ 24 page(s) of specification, 1 page(s) of Abstract, 18 page(s) of claims

☒ 18 sheets of drawing ☒ formal ☐ informal

☒ 6 page(s) of Declaration and Power of Attorney

☐ Unsigned

☒ Newly Executed

☐ Copy from prior application

☐ Deletion of inventors including Signed Statement under 37 C.F.R. § 1.63(d)(2)

☐ Incorporation by Reference: The entire disclosure of the prior application, from which a copy of the combined declaration and power of attorney is supplied herein, is considered as being part of the disclosure of the accompanying application and is incorporated herein by reference.

☐ Microfiche Computer Program (Appendix)

☐ _____ page(s) of Sequence Listing

☐ computer readable disk containing Sequence Listing

582737_1

- ☐ Statement under 37 C.F.R. § 1.821(f) that computer and paper copies of the Sequence Listing are the same
- ☐ Claim for Priority
- ☐ Certified copy of Priority Document(s)
- ☐ English translation documents
- ☐ Information Disclosure Statement
- ☐ Copy of ____ cited references
- ☐ Copy of PTO-1449 filed in parent application serial No. _____.
- ☐ Preliminary Amendment
- ☒ Return receipt postcard (MPEP 503)
- ☐ Assignment Papers (assignment cover sheet and assignment documents)
- ☐ A check in the amount of \$40.00 for recording the Assignment.
- ☐ Assignment papers filed in parent application Serial No. _____.
- ☐ Certification of chain of title pursuant to 37 C.F.R. § 3.73(b).
- ☐ This is a ☐ continuation ☐ divisional ☐ continuation-in-part (C-I-P) of prior application serial no. _____.
- ☐ Cancel in this application original claims _____ of the parent application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- ☐ A preliminary Amendment is enclosed. (Claims added by this Amendment have been properly numbered consecutively beginning with the number following the highest numbered original claim in the prior application.
- ☐ The status of the parent application is as follows:
- ☐ A Petition For Extension of Time and a Fee therefor has been or is being filed in the parent application to extend the term for action in the parent application until _____.
- ☐ A copy of the Petition for Extension of Time in the co-pending parent application is attached.
- ☐ No Petition For Extension of Time and Fee therefor are necessary in the co-pending parent application.
- ☐ Please abandon the parent application at a time while the parent application is pending or at a time when the petition for extension of time in that application is granted and while this application is pending has been granted a filing date, so as to make this application co-pending.
- ☐ Transfer the drawing(s) from the patent application to this application.

☐ Amend the specification by inserting before the first line the sentence:
 This is a ☐ continuation ☐ divisional ☐ continuation-in-part of co-pending application Serial No. _____
 filed _____.

I. CALCULATION OF APPLICATION FEE (For Other Than A Small Entity)

	Number Filed		Number Extra	Rate	Basic Fee
Total					\$710.00
Claims	93	-20=	73	x\$18.00	\$1314.00
Independent					
Claims	12	- 3=	0	x\$80.00	\$720.00
Multiple Dependent Claims					
	<input type="checkbox"/> yes		Additional Fee =	\$270.00	
	<input type="checkbox"/> no		Add'l Fee =	NONE	\$0.00

Total: \$ 2,744.00

- ☒ A statement claiming small entity status is attached or has been filed in the above-identified parent application and its benefit under 37 C.F.R. § 1.28(a) is hereby claimed. Reduced fees under 37 C.F.R. § 1.9(F) (50% of total) paid herewith \$ 1,372.00.
- ☒ A check in the amount of \$ 1,372.00 in payment of the application filing fees is attached.
- ☐ Charge Fee(s) to Deposit Account No. 13-4500. Order No. _____. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.
- ☒ The Assistant Commissioner is hereby authorized to charge any additional fees which may be required for filing this application, or credit any overpayment to Deposit Account No. 13-4500, Order No. 4056-4000. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Dated: November 10, 2000

By: _____

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PATENT

Docket No. 4056-4000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) or Patentee(s): Adam Roth, et al.

Group Art Unit: TBA

Serial No. or Patent No. : TBA

Examiner: TBA

Filed or Issued : Herewith

For : ELECTRONIC MAIL METHOD AND SYSTEM USING ASSOCIATED AUDIO
AND VISUAL TECHNIQUES

STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS 37 CFR §1.97(f) AND §1.27 (b)) – INDEPENDENT INVENTOR

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR § 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled

ELECTRONIC MAIL METHOD AND SYSTEM USING ASSOCIATED AUDIO AND VISUAL TECHNIQUES

described in

☒ the specification filed herewith

☐ application Serial No. _____, filed _____

☐ Patent No. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR § 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR § 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed or licensed or am under an obligation under contract to law to assign, grant, convey or license any rights in the invention is listed below:

☒ no such person, concern or organization

☐ persons, concerns or organizations listed below *

NAME _____

ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

* NOTE: Separate statements are required form each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR § 1.27)

NAME _____

ADDRESS _____
[] Individual [] Small Business Concern [] Nonprofit Organization

NAME _____

ADDRESS _____
[] Individual [] Small Business Concern [] Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (CFR § 1.28(b))

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Adam Roth, et al. Group Art Unit: TBA
Serial No. : TBA Examiner: TBA
Filed : Herewith (November 10, 2000)
For : ELECTRONIC MAIL METHOD AND SYSTEM USING ASSOCIATED
AUDIO AND VISUAL TECHNIQUES



EXPRESS MAIL CERTIFICATE

Express Mail Label No. EL 704 520 615 US

Date of Deposit November 10, 2000

I hereby certify that the following attached paper(s) and/or fee

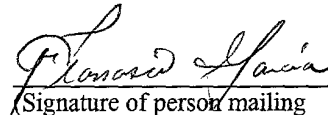
Utility Application and application Fee Transmittal; Application consisting of 24 pgs. of specification, 1 page of Abstract; 18 pgs. of Claims; 18 sheets of formal drawings; executed combined Declaration and Power of Attorney; executed Statement Claiming Small Entity Status; check in the amount of \$1372.00; and return receipt postcard

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

FRANCISCO GARCIA

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

5

U.S. PATENT APPLICATION

FOR:

**ELECTRONIC MAIL METHOD AND SYSTEM USING
ASSOCIATED AUDIO AND VISUAL TECHNIQUES**

INVENTORS:

ADAM ROTH

GEOFFREY O'SULLIVAN

BARCLAY A. DUNN

ELECTRONIC MAIL METHOD AND SYSTEM USING ASSOCIATED AUDIO AND VISUAL TECHNIQUES

5 BACKGROUND OF THE INVENTION

Field of the Invention

The invention relates to electronic mail methods and systems and more particularly to electronic mail methods and systems using associated audio and visual techniques.

10 Background Information

Over the past decade, the use of electronic mail (email) has become a ubiquitous form of communication. Email has become among the primary methods of communications used in both business and social settings. Some of the advantages of communication by email are the ability to transmit messages instantly, the ability to transmit graphics, the ability to easily send messages to a large number of recipients, etc. Because of these (and other) advantages, transmitting messages by email is more efficient than other types of communication modes, such as telephone, facsimile, and the like.

Nevertheless, transmitting messages by email limits a sender's ability to convey emotions that may be associated with a message. For example, when sending a message, senders may wish to convey that they are angry, sad, happy, etc. Because the content transmitted by email is usually in a text format, it is difficult for a sender to convey emotions along with a message. Of course, certain punctuation (such as an exclamation point) or an emoticon may aid in conveying

a sender's emotion, but the value of using these symbols are limited. For example, it is difficult to use symbols to convey humor, impatience, urgency, empathy, etc.

U.S. Patent No. 6,064,383 to Skelley entitled "Method And System For Selecting An Emotional Prosody For A Graphical Character" is directed to a user interface element which enables a user to select an appearance for a character that corresponds with an emotion and an emotional intensity. Nevertheless, Skelley and the other existing prior art do not permit a full range of capability of expressing senses or emotions associated with a message transmitted over a network. For example, users are typically limited to a fixed number of characters, and are unable to easily display a likeness that resembles the user in a lifelike manner (with respect to audio and visual aspects) when sending such messages. Moreover, users cannot easily enter and choose among message content formats, be it text-based, audio, visual, etc., particularly with respect to the user's own likeness. Further, because transmitting messages by email has become so ubiquitous, it is desirable to have the ability to prepare such messages using a variety of devices and input techniques. Therefore, there is the need to devise a method and system in which a user can easily compose an email message with the ability to associate one or more multimedia components related to the message content. Additionally, there is the need to devise such a method and system wherein the user is not restricted to specific character choices, emotional displays, message formats or limited inputting techniques.

SUMMARY OF THE INVENTION

Accordingly, it is an object of the invention to provide a multi-mail system and method in which a sender may convey and a recipient can realize emotional aspects associated with substantive content of an email message by receiving a message that is more than textual in

nature. Voice recognition technology and programmatic relation of sound and graphics may be used to produce a talking image. In one embodiment, the image may include the user's own visual and/or audio likeness. In an alternate embodiment, the image may comprise any available visual and/or audio display selected by the user.

5 The multi-mail message may be inputted by a user in a text format and transposed into a format including the selected image and/or voice. In an alternate embodiment, a spoken message may be converted into a format including the selected image and/or voice. The formatted messages are then stored and/or transmitted via an email system or some other electronic network.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing features and other aspects of the invention are explained in the following description taken in conjunction with the accompanying figures wherein:

FIG. 1A illustrates a network for supporting transmission of email messages according to one embodiment of the present invention;

FIG. 1B illustrates one embodiment of the central controller used in the system shown in Fig. 1A;

FIG. 2 illustrates the login process according to one embodiment of the invention;

FIG. 3 illustrates the login process according to a second embodiment of the invention;

FIG. 4 illustrates the graphics and audio management process according to one embodiment of the invention;

FIG. 5 illustrates the process of uploading an image or audio file according to one embodiment of the invention;

FIG. 6 illustrates the process of deleting an image or audio file according to one embodiment of the invention;

FIG. 7 illustrates the process of manipulating an image on a website according to one embodiment of the invention;

5 FIG. 8 illustrates the graphic add-on process according to one embodiment of the invention;

FIG. 9 illustrates the sound effect process according to one embodiment of the invention;

FIG. 10 illustrates the process of setting up or changing voice sample preferences according to one embodiment of the invention;

10 FIG. 11 illustrates the process of creating a new message according to one embodiment of the invention;

FIG. 12 illustrates the process of creating an audio portion of a message according to one embodiment of the invention;

15 FIG. 13 illustrates the image processing process according to one embodiment of the invention;

FIG. 14 illustrates the email creation process according to one embodiment of the invention;

FIG. 15 illustrates the text to audio synthesis process according to one embodiment of the invention;

20 FIG. 16 illustrates the process of receiving a spoken message by telephone according to one embodiment of the invention; and

FIG. 17 illustrates the sound quality processing process according to one embodiment of the invention.

It is to be understood that the drawings are for illustration only and are not limiting.

DETAILED DESCRIPTION OF THE INVENTION

5 System of the Invention

Fig. 1A shows one embodiment of a system incorporating the present invention. In this embodiment, the system includes a central controller 110, configured to receive information from one or more email senders 124 or to send such information to one or more recipients 134 at user interface devices 120, 130.

10 Central controller 110 preferably comprises a processor-based system that maintains databases and information relating to the preparation, transmission and receipt of multi-mail messages. A multi-mail message is an email message which has a multimedia component associated with the inputted message. The multimedia component may be in the form of audio content, image content (static or dynamic), graphic content or any other multimedia format. Further, the multi-mail message may be transmitted with a textual component in addition to one or more multimedia components, or, in an alternate embodiment, the textual component is replaced by one or more multimedia components. Although the multimedia component may be added to a message to facilitate conveying a user's emotion associated with a message, the component(s) may be utilized to simply more effectively transmit a sender's message.

20 As described more fully below, a multi-mail message may be prepared in a number of different ways. In one embodiment, an email message may be prepared by typing in a textual message at a sender's user interface device 120 that is capable of receiving such text, and associating an accompanying audio and/or video component. In another embodiment, an email

message may be composed by telephone, or some other device that is capable of receiving an audio input. In one embodiment, user interface devices 120, 130 may be a computer comprising one or more central processing units (CPU), one or more data storage devices, a monitor, a keyboard and/or any other components that may allow a user to implement the commands of the software and hardware functions described herein. Further as Fig. 1A illustrates, a sender user interface device may be a personal digital assistant (PDA) 120-1, telephone 120-2, or any type of wireless or land line device that is capable of transmitting textual, graphical or audio messages, such as facsimile machines, beepers, etc. Similarly, any devices that are capable of communicating an audio and/or video message (with or without transmitting textual data) are suitable for displaying email messages to a receiving party.

Referring to Fig. 1B, central controller 110 stores information received from senders or recipients in user/account database 352. Further, information concerning animations, images and audio components which may be associated to a specific message and/or a specific user is stored in databases 354, 356, 358. As described more fully below this information is used to compose, send and receive multi-mail messages which convey the sender's message in a manner that is not only textual. In some cases, the multi-mail message may have no textual component at all. The data stored in databases 354, 356, 358 effectuate the transmission of such message formats. The structure of certain embodiments of the central controller 110 is described below in connection with Fig. 1B.

Senders 124 include individual(s) wishing to compose and/or send a multi-mail message to recipient(s) 134. As described above, a multi-mail message is an electronic message that has at least one multimedia component associated with the message. In one embodiment, users (senders 124 and recipients 134) register, through user interface devices 120, 130, with the

service which performs the email processes as further described below. In one embodiment, the user interface device may be the user's computer or internet access device. In another embodiment, the user interface device may be a telephone, PDA, facsimile machine, etc.

Senders 124 can input email message information in various ways. For instance, users may send such messages electronically by means of the internet, world wide web, intranet, or some other network. This may be accomplished by inputting a message through sender device 120 which is in communication with the network. In an alternate embodiment, the sender device may be in communication with some other type of network, such as the public switched telephone network (PSTN). Two ways in which a sender may input such information via the PSTN for receipt by central controller 110 include (1) telephone answering services at central controller 110 that provide audio recording capabilities and, in some instances, that permit interaction between the user and the system based on touch tone or voice input provided by the user; or (2) telephoning live operators at central controller 110, to verbally provide information which is entered into the system via operator terminals.

Figure 1B illustrates one embodiment of the central controller 110 for a system according to the present invention. As shown in Fig. 1B, central controller 110 includes central processing unit (CPU) 240, random access memory (RAM) 220, read-only memory (ROM) 230, and large capacity storage device 250. CPU 240, preferably comprising a conventional microprocessor such as an Intel Pentium Processor, is electronically coupled to each of the central controller's other elements.

CPU 240 executes program code stored in one or more of RAM 220, ROM 230 and storage device 250 to carry out the functions and acts described in connection with central controller 110. CPU 240 preferably comprises at least one high-speed digital data processor

adequate to execute program modules for executing email transmissions by others 124, 134.

These modules are described in connection with Figs. 2-17. CPU 240 interacts with RAM 220, ROM 230 and storage device 250 to execute stored program code according to conventional data processing techniques.

5 User interface devices 120 and 130 comprise devices for allowing central controller 110 to communicate with multi-mail senders 124 and recipients 134. Communication between these user interface devices 120, 130 and the controller 110 is preferably electronic by means of the internet and preferably includes a conventional high speed modem employing known communication protocols capable of decrypting encrypted data received from the
10 interface user devices 120, 130.

 Large capacity storage device 250 contains transaction processor 260, user/account database 352, animation database 354, image database 356 and audio database 358. Transaction processor 260 maintains, determines and accesses data stored in databases 352, 354, 356, 358, and handles multi-mail message information for transmission between senders 124 and
15 recipients 134 as described in connection with Figs. 2-17. Transaction processor 260 may comprise a separate, conventional CPU/microprocessor, or a portion of the operating function of CPU 240.

 User/account database 352 contains data about senders and recipients that register with the multi-mail service described herein. The data is used to store subscriber information
20 including name and email address(es), as well as information for accessing audio, video and animation files, where appropriate. Animation database 354 contains information relating to animations associated with a sender or sender's message. Animation information includes data relating to a dynamic graphic associated with a sender's message. Image database 356 contains

information relating to images associated with a sender or sender's message as well as data for controlling the audio and video aspects of a dynamic image. Image information may include any dynamic or static graphic associated with a sender's message. Audio database 358 contains information relating to audio data associated with a sender or sender's message. In one embodiment, the image may be a graphic of a user's, or someone else's, face. In an alternate embodiment, an image may be any other type of graphic. Audio information may include any voice(s) or sound(s) associated with a sender's message. As described more fully below, the animations, graphics and/or audio components associated with a sender's email message may include the likeness of the sender. In another embodiment, these multimedia components may have little or no resemblance to the sender. The process of using data from user/account information database 352, animation database 354, image database 356 and audio database 358 to prepare, send and receive messages, as well as the other operations of the system described with reference to Figs. 1A and 1B, is represented in the flowcharts of Figs. 2-17, described in detail below. Central controller 110 uses user/account information database 352, animation database 354, image database 356 and audio database 358 to execute multi-mail preparation and transmission processes.

Login Process

The login process is the preliminary process in which users (senders 124, recipients 134) provide information to effectuate access to the multi-mail system and serves at least the following purposes: (1) storing address information to enable proper routing of a multi-mail message; (2) transmitting messages (electronic, telephone, mail, etc.) by the multi-mail server to users such as new messages, return receipts, etc.; (3) effectuating login by comparing identifier

information entered by users during the login process to the stored personal identifier information provided at registration; and (4) enabling users to select a link so that message information and/or user information may be stored.

Referring to Fig. 2, the login process begins at step 1000 where a user accesses the multi-mail program stored in central server 110 via user interface 120, 130. In one embodiment, this is accomplished by typing a universal resource locator (URL) associated with the multi-mail site. A determination is then made, in step 1100, as to whether the user is an existing multi-mail user or a first time visitor. If the user has previously registered with the multi-mail site the user logs in by entering a username and associated password. This information is compared to the data previously stored in user/account database 352. Once the information is verified, the user may further access the multi-mail site.

Once the login information is verified as being correct, the user may access several options including, but not limited to, managing graphics and audio files (step 1111), creating a new multi-mail (step 1112), accessing multi-mail via a free multi-mail account (step 1113) and creating or editing user or multi-mail preferences (step 1114). Various aspects concerning managing graphics and audio files (step 1111) are described below with reference to Figs. 4-11. Various aspects concerning creating a new multi-mail message (step 1112) are described below with reference to Figs. 12-17. Accessing multi-mail via a free email account (step 1113) allows a user to retrieve email sent to a personal email account at gabmail.tv, as well as email sent to them at other POP accounts. Finally, creating or editing preferences (step 1114) allows a user to select default settings associated with the user's account and/or messages. Such settings may include default audio, image and animation attributes, multi-mail routing information (i.e., priority information, forwarding information, etc.) and the like. The default settings may apply

to all or only a sub-group (such as those to a specific recipient 134) of multi-mail messages created by a user.

If the user has not previously registered with the multi-mail site, a new username and password is established by the user and is stored in user/account database 352 (step 1120). The user may then create preferences associated with the user's new account and/or individual messages (step 1114). Upon creating these preferences, the user may manage graphics and audio files (step 1111), create a new multi-mail (step 1112), access multi-mail via a free multi-mail account (step 1113) and/or edit user or multi-mail preferences (step 1114).

Telephone Access Process

In addition to accessing the multi-mail system by computer, a user may access the system by telephone. (It should be noted that access to the multi-mail site is not limited only to computer and telephone access. These are merely representative samples of devices that may access the system by either some graphical user interface (i.e., computer) or by audio interface (i.e., telephone).

In step 2000, a user accesses the multi-mail system through the PSTN by dialing a telephone, such as a toll free 800 number. Upon accessing the system, the user specifies, in step 2100, whether they have an existing account. If an account does not already exist, the user may make such an indication by pressing a key on the telephone keypad (i.e., “*”) or by speaking a predetermined word as requested by a multi-mail interactive voice response unit (step 2120).

If, however, CPU 240 of central controller 110 determines that a user account already exists, the user's identification code and password are entered and compared to the data stored in user/account database 352. Upon verification that the user's login information is correct, the

user may access new (or old) received multi-mail messages (step 2111), compose a new multi-mail outgoing message (step 2112) or change the user's personal settings (step 2113). Changing a personal setting may include recording a new audio component to be associated with multi-mail messages (step 2113.1). This new audio component may be stored in audio database 358 in place of or in addition to any audio components that the user already has stored. Additional personal settings, such as choosing a default image (step 2113.2), listening to other voice samples (2113.3), or choosing background sounds (2113.4), may be activated by the telephone system. Other options, such as recording samples of a laugh, a whisper, a shout, or the like are available.

Graphics and Audio Management Process

Referring to Fig. 4, various audio and graphics capabilities of the multi-mail system are illustrated at step 1111. For example, at step 1111.1, image or audio files may be uploaded. As described above such files are stored in and may be accessed from any one or more of animation database 354, image database 356 and audio database 358. These files may be .wav, .jpeg, .mpeg, or any other type of file containing audio or video data. In addition to storing such files, these files may be deleted from database 354, 356, 358 at step 1111.2.

Images that can be accessed by a user may also be manipulated by the user. In one embodiment, the manipulation may take place at the multi-mail website (i.e., central controller 110) and may include enlarging or shrinking an image, reorienting the image, changing the colors of the image, tiling or cascading the image, etc. (see Fig. 7 and related description below for more detail). Further, at step 111.4, the graphics manipulation enables graphic add-ons which are described more fully below with reference to Fig. 8.

At step 1111.5, sound effects may be stored in and/or accessed from audio database 358.

Sound effects may include changing the pitch, rate of speech, etc. of an existing message.

Further, sound effects may include choosing from a library of common sounds including, but not limited to, the sound of breaking glass, wind blowing, door slamming, dog barking, etc. Another library of sound effects may be the voices of celebrities or other famous people. In other words, the sound effects may result from changes to a user's voice, another person's voice or any sound related or unrelated to a person's voice. Finally, at step 1111.6, a voice sample preference may be created or changed. Such preferences (1111.6) as well as the other graphic/audio management steps (1111.1-1111.5) are described more fully below with reference to Figs. 5-10.

Uploading an Image or Audio File

An image or audio component may be associated with a multi-mail message by accessing from database 354, 356, 358 the file(s) which store such data. Referring to Fig. 5, a user who wishes to upload an image or audio file (step 1111.1) may, in one embodiment, browse to or type in the file location on a local computer (or some other user interface device 120 which may browse or access such files) to locate such data files (step 1111.11) or terminate the upload session. Once the appropriate file is located, the user may select and upload the data of such file (step 1111.12). The sound, image or graphic component may then be previewed at step 1111.13. If the component is not approved (step 1111.14), the user may return to the browse mode (step 1111.11). If, however, at step 1111.14, the component is approved, it is associated with the message and the user returns to component management menu (step 1111). Further, a keyword may be associated with the file so that the contents of the file may be accessed via telephone 120-2.

Deleting an Image or Audio File

Referring to Fig. 6, a user may choose to delete one or more audio, image or animation files (step 1111.2). This is accomplished by first selecting an audio, image or animation from one or more available files stored in database 354, 356, 358 associated with the user's account (step 1111.21). Once the file(s) are selected, the user is asked to confirm the deletion of the file(s) (step 1111.22). If the selected file(s) are not confirmed for deletion, the user may choose to select other file(s) for deletion (or terminate the file deletion process). If, however, at step 1111.22, the user confirms deleting the selected file(s), those file(s) are deleted from one or more of databases 354, 356, 358 (1111.23) and the user receives confirmation of such deletion (1111.24). In one embodiment, the user is then returned to the component management menu (step 1111).

Manipulating an Image

As described above, a user may wish to manipulate an image for association with a multi-mail message. Such manipulation begins at step 1111.3 of Fig.7. Image manipulation enables a user to easily change a stored image. Although a user may change a stored image in countless ways, some of the manipulation options are as follows: (1) include stock or own animation which could, for example, include a mini-movie in the background behind the talking head (step 1111.31); (2) drag an image of a face into a goofy shape, (step 1111.32); (3) enlarge eyes or exaggerate other image features (step 1111.33); (4) provide color enhancement to an image or video (i.e., technicolor, grainy black and white, sepia, etc.) (step 1111.34); (5) enable image

movement, such as winking (step 1111.35); (6) change component background (i.e., street scenes, circus, ships, psychedelic, subtle, stripes, antique, etc.) (step 1111.36); (7) drag other objects into image or video (step 1111.37); and (8) move or alter body parts (step 1111.38). The manipulations listed above are merely representative examples of the effects that may be applied to a multi-mail image or video components and are not meant to be an exclusive list of manipulations available. After completing the image/video manipulation (step 1111.3), the user may return to the component management menu (step 1111).

Graphic Add-On Process

As shown in Fig. 8, a user may also wish to apply graphic add-ons to a multi-mail message (step 1111.4). These add-ons enable a user to introduce additional images into a graphic component. The additional image may already be stored in image database 356, may be accessed by some other database storing such images or may be scanned into the user's local user interface device 120. Although a user may access countless graphic add-ons, some of the add-ons that may be applied to a multi-mail message are as follows: (1) applying various body types, including different sizes and proportions, color (skin, hair, etc.), features, etc. (step 1111.41); (2) including different types of clothing and accessories to images of persons (step 1111.42); (3) applying different tints to the graphic (step 1111.43); and (4) applying different surroundings and wallpapers to the graphic (step 1111.44). The graphic add-ons listed above are merely representative examples of the add-ons that may be applied to a multi-mail image or video component and are not meant to be an exclusive list of the available graphic add-ons. After completing the graphic add-ons process (step 1111.4), the user may return to the component management menu (step 1111).

Sound Effect Process

As shown in Fig. 9, a user may also wish to apply sound effects to a multi-mail message (step 1111.4). These sound effects enable a user to include either speech or non-speech sound that is associated with a multi-mail message. In one embodiment, the sound effect may simply be the user stating the textual contents of the multi-mail message using his or her normal voice. In another embodiment, the sound effect may be the user's speech attenuated to convey an emotion associated with the message. In yet another embodiment, the sound may be the speech of a person other than the user. Finally, in another embodiment, the sound effect may be some noise that is not speech. Some examples of the sound effects that may be applied to a multi-mail message are as follows: (1) applying joke or gag sounds (step 1111.51); (2) including background music (step 1111.52); and (3) choosing from generic voice samples (step 1111.53). The sound effects listed above are merely representative examples of the sounds that may be applied to a multi-mail image or video component. The sound effects may already be stored in audio database 358, may be accessed by some other database storing such sounds or may be recorded into local storage of a local user interface device 120 that is capable of receiving sound data. After completing the sound effects process (step 1111.5), the user may return to the component management menu (step 1111).

Establishing or Changing Voice Sample Preferences

Referring to Fig. 10, voice sample preferences may be established or changed (step 1111.6). A voice sample is any voice that a user may store and/or access for association with a

multi-mail message. As described more fully above, the voice may be that of a user, a variation of a user's voice, or someone else's voice.

In one embodiment, a voice sample may be stored in audio database 358 by telephone 120-2 or any other device having an audio input and output in communication with central controller 110. At step 1111.61, a user initiates the voice sample call in process by accessing a telephone number (such as a toll free telephone number) which is associated with the multi-mail message service. The user logs into the system by providing a username and password (step 1111.611). The user then navigates to a voice sample recording section of the system (step 1111.612). In one embodiment, this is accomplished by pressing the appropriate button on a keypad in response to the system requests. In an alternate embodiment, an interactive voice response unit may be used. At step 1111.613, the voice sample is recorded. Recording devices may be part of the telephone system. The user will read a statement into the phone that will provide a broad enough spectrum of sounds to allow the automated synthesis of any text the user may type in the future. The user may then review the recorded sample at step 1111.614. If the user does not approve of the recorded sample (step 1111.615), the process returns to step 1111.613 where the voice sample may be re-recorded (or the process may be terminated). If, however, the recording is approved, the user may confirm such approval (step 1111.616). The system saves and then parses the voice sample into phonemes (step 1111.617) and organizes, sorts and stores the phonemes (step 1111.618). More specifically, the system will (1) analyze sample for breaks (silence) and divide it into words at breaks; (2) divide words into syllables; (3) divide syllables into component vowel and consonant sounds, or phonemes; (4) identify each in the set of phonemes thus derived from voice sample by comparing to a standard set of spoken phonemes; and (5) eliminate duplicates, enumerate any missing phonemes, and organize

collection for future use. At this point, a person's voice is stored in such manner that the multi-mail system may transmit a voice-based message to a recipient 134. In another embodiment, an audio component may be associated with a textual message by converting the textual message to an audio one. This may be accomplished by utilizing a text to speech converter which is known in the art.

In addition to calling in a voice sample (step 1111.61), a user may choose a voice sample from a generic voice sample stored in, for example, audio database 358 (step 1111.62). Further, an audio file may be uploaded as described above (step 1111.1).

Creating a New Message

Referring to Fig. 11, a user may create a new multi-mail message at step 1112. This is accomplished by (1) creating an audio portion (step 1112.1), (2) selecting a preexisting image or uploading a new image (step 1112.2), (3) processing the image (step 1112.3), and (4) synthesizing the multi-mail message (step 1112.4). Steps 1112.1-1112.4 are described in greater detail below with reference to Figs. 12-17. It should be noted that although the multi-mail system supports all types of multimedia components (i.e., audio, image, animation, etc.), there is no requirement that more than one component be selected by the user. For example, the user may wish to add only an audio component, in the form of the user's voice, to an otherwise standard text email. Alternatively, the user may want to show a picture of an object in association with the message.

Once a multi-mail message has been composed with the appropriate associated audio, image and/or animation components, the user may preview the multi-mail message at step 1112.5. If the user does not approve the message (step 1112.6), the multi-mail message

composition process may be terminated or the user may return to step 1112.1 where the message may be edited or created anew in part or in toto. If, however, at step 1112.6, the user approves the multi-mail message, the user may choose to transmit the multi-mail message (step 1112.7). In one embodiment, the message is transmitted as soon as the multi-mail message is approved.

- 5 In an alternate embodiment, the user may choose an option to have the message sent either automatically or manually at some future time. In any event, when the message is transmitted, the user may select an option to receive a confirmation (step 1112.8) when the transmitted message has been sent by the sender 124 and/or received by the recipient 134.

10
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Creating an Audio Portion of Message

As described above, a multi-mail message may include an audio component to more effectively convey a message. Creating the audio component of a message begins at step 1112.1 of Fig.12. Entering the audio component of a multi-mail message into the mail system may be accomplished in at least two ways. In one embodiment, a sender 124 may enter text via user interface device 120 (step 1112.11). CPU 240 of central controller 110 may then synthesize the typed text into audio data which is stored in audio database 358 (step 1112.111). This is accomplished by using a text to speech converter in conjunction with the parsed voice sample stored in audio database 358 that is selected by sender 124.

- 20 In an alternate embodiment, the sender 124 may submit a spoken message by telephone 120-2 or some other device which has an audio input and output capability and is in communication with central controller 110 (step 1112.12). Next, central controller translates the sound to text by accessing a speech to text converter. The conversion is performed and saved at

step 1112.121. Sound quality processing is performed at step 1112.122 and the audio component creations process is complete (step 1112.1).

Image Processing

5 As described above, a multi-mail message may include an image component to more effectively convey a message. Creating the image component of a message begins at step 1112.3 of Fig.13. The image processing module enables a user to store his or her own likeness or that of another (using a digital camera, developing a standard photograph digitally onto a CD, scanning an image, or using some other digital input device) to more effectively convey a message.

10 Further, the module enables the user to combine the audio component with a dynamic image component, to enable a recipient 134 to receive a message wherein a person's image and voice is conveying a message.

At step 1112.41, the user indicates to CPU 240 of central controller 110 whether the image is a face (step 1112.41). If the image is a face, the eyes and mouth are located (at step 1112.411). An image recognition application that looks for almond shapes (eyes), oval diamonds (mouths), or ovals (faces) may be either custom written or existent and known to those skilled in the art. Further, mouth shape frames are generated for each corresponding message vowel and consonant (step 1112.411) and eye blink frames are generated as well (step 1112.4112). The system includes custom written code that utilizes an algorithm or set of
20 algorithms to make minute changes to an image, save in a new file, make more minute changes, save again in a new file, and so on until the collection of images together form the frames of animation to look like a speaking face. The images would then be compiled in order forming an animated sequence. If the image is not a face (or even if it is) the user may use a custom-written

web-based application to denote regions of their image they would like to animate, and then select from a pre-determined collection of types of animation (blinking eyes, moving mouth, nodding head, or limited set of other non-facial movements) to apply to those regions of the image.

5

Email Creation Process

Referring to Fig. 14, the multi-mail message is created at step 1112.4. In one embodiment, the text is first entered into the multi-mail message file (step 1112.41). Next, an associated sound clip is parsed into phonemes (step 1112.42) if the audio component was previously entered by telephone or a similar audio device. If, however, the message was originally typed in (i.e., textual), the phoneme information is recalled from the parsed typed text which is stored in image and audio databases 354, 358 (step 1112.41a).

Next, at step 1112.43, a phoneme/time sequence is composed by CPU 240 . Further, a matching mouth frame/time sequence (step 1112.44) and a non-matching eye blink frame sequence (step 1112.45) are composed. The sequence of image frames is composed to match the sequence of phonemes, in order and in individual frame duration. The image sequence and sound information are then combined into a synchronized clip which is stored in animation database (step 1112.46). Finally, the animation clip is embedded into hypertext markup language (HTML) in a multi-mail message for transmission to a recipient's user interface device

20 130.

Text to Audio Synthesis Process

Referring to Fig. 15, the text to audio synthesis process is described. A sender most frequently enters an email message by typing in a text message which is displayed as a graphical user interface on the sender's user interface device 120 and then sent to a recipient's 134 user interface device 130. Because multi-mail messages have a multimedia component associated with the text message, the central controller converts the text message to an audio/image display to accompany and/or replace the text display. The synthesis enables such display to look and sound life-like. The text to audio synthesis begins at step 1112.111. First, central controller 110 parses the textual message into sentences. This may be accomplished by recognizing punctuation provided by the user or some other algorithm known in the art. Next, at step 1112.112, voice modulation controls are assigned to sentence end. This enables appropriate inflection and pausing to be accomplished as sentences end.

At step 1112.1113, the text is then parsed for voice modulation controls, or custom codes to indicate a variety of voice inflections or adjustments to be made on that sound. The sentence type (i.e., question, compound sentence, etc.), as well as emphasis commands provided by the sender 124, may dictate how the text is parsed. Next, phoneme and modulation information is sequenced and translated into a sound sequence (steps 1112.1114 and 1112.1115) and the voice is modulated pursuant to the modulation controls or commands (step 1112.1116). Using sound effect plug-in tools known to those skilled in the art, such as Mark of the Unicorn's Spectral Effects, the voice can be modulated in terms of pitch (higher or lower), formants (phoneme energy), or speed (time expansion or compression), to indicate a range and intensity of emotion. Finally, the sound quality is processed, at step 1112.21, and the associated multi-mail message audio file is compiled (step 1112.1117). The user may then send the message with the associated

audio file; the associated text may be optionally transmitted. Further, as described above, an associated image file may also be associated with the message and transmitted.

Receiving Spoken Message by Telephone

5 Referring to Fig. 16, the process of receiving an audio message via telephone 120-2 or some other device having audio input and output capabilities is described. At step 1112.12, a sender 124 submits a spoken message by telephone 120-2. In one embodiment, the voice sample may be stored in audio database 358.

10 The user first accesses the system by calling a telephone number (such as a toll free telephone number) which is associated with the multi-mail message service. The user logs into the system by providing a username and password (step 1112.121). The user then navigates to a voice sample recording section of the system (step 1112.112). In one embodiment, this is accomplished by pressing the appropriate button on a keypad in response to the system requests. In an alternate embodiment, an interactive voice response unit may be used. At step 1112.123, 15 the voice sample is recorded. The multi-mail message service system contains software whose function it is to digitize (i.e., record) sound. At the appropriate signal from the multi-mail message service, this software is invoked to record the user's voice sample. The user may then review the recorded sample at step 1112.124. If the user does not approve of the recorded sample (step 1112.6), the process returns to step 1111.123 where the voice sample may be re- 20 recorded (or the process may be terminated). If, however, the recording is approved, the user may confirm such approval (step 1111.126). The system then performs the necessary recorded message processing (step 1112.127) as described in detail above with reference to steps 1111.617 and 1111.618 of Fig. 10.

Sound Quality Processing

Fig. 17 illustrates the sound quality processing of the system shown in Figs. 1A and 1B.

Sound quality processing is comprised of the different modules that central controller 110

5 performs to the audio component of a multi-mail message to ensure that the sound has realistic qualities. At step 1112.211, the equalization process is performed to adjust individual sound wave frequencies. Next, at step 1112.212, central controller 110 performs the compression process, smoothing out sound wave peaks and compressing audio frequencies. Next, at step 1112.213, noise gating is performed, which further improves the sound quality by only

10 permitting the audio component to pass if it reaches a certain user defined threshold, and an audio limiting process is performed by central controller 110, which limits the audio signal at a user defined level. These audio processes, eliminating background noise and other distortions and improving overall audio quality using methods known to those skill in the art, provide a high quality audio component to be communicated to a recipient 134.

15 It will be apparent to those skilled in the art that various modifications and variations can be made in the system and processes of the present invention without departing from the spirit or scope of the invention. Thus, it is intended that the present invention cover the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents. In this context, equivalents means each and every implementation for carrying
20 out the functions recited in the claims, even if not explicitly described herein.

CLAIMS

What is claimed is:

1. A method for preparing a multi-mail message for transmission over a network,
comprising:

5 receiving data comprising textual content of said message;
creating one or more multimedia components associated with said message,
wherein said multimedia component represents a likeness of a sender; and
synthesizing said multimedia components with said textual content.

10 2. The method according to claim 1, wherein the multimedia component comprises
audio information.

15 3. The method according to claim 1, wherein the multimedia component comprises
image information.

4. The method according to claim 3, wherein the image information may be static or
dynamic.

20 5. The method according to claim 2, wherein the audio component comprises voice
data that enables the generation of sounds similar to the user's voice speaking the words of the
textual content of the message.

6. The method according to claim 2, wherein the audio component comprises voice data that enables the generation of sounds similar to a generic voice sample.

7. The method according to claim 2, wherein the audio component comprises voice data that enables the generation of any stored sound.

8. The method according to claim 2 wherein the synthesis of the multimedia component containing audio information further comprises:

parsing the audio information into sentences and for voice modulation controls;
assigning voice modulation to audio information;
sequencing phoneme and modulation information; and
translating said phoneme sequence into a sound component sequence.

9. The method according to claim 1, wherein the synthesis of the image multimedia component further comprises:

identifying speech movement image feature; and
generating frames representing movement of said image features.

10. The method of claim 1, wherein the multimedia component comprises audio information and image information.

11. The method according to claim 10, wherein the synthesis of the audio and image multimedia components further comprises:

composing a phoneme sequence;
composing a mouth frame time sequence which matches the phoneme time
sequence;
composing speech movement image frame sequence; and
5 combining the image and phoneme sequences.

12. The method according to claim 10, further comprising:
varying one or more of said components to convey one or more senses of said
message content.

10 13. The method according to claim 12, wherein the senses of said message content
correspond to one or more sender emotions associated with said message.

14. The method according to claim 13, wherein the sender emotions are conveyed by
15 manipulating one or more said image components.

15. The method according to claim 13, wherein the sender emotions are conveyed by
manipulating one or more said audio components.

20 16. The method for preparing a multi-mail message for transmission over a network,
comprising:
receiving audio information relating to content of said message;
translating said audio information to text information; and

combining said audio information and text information in preparation of said transmission.

17. The method according to claim 16, wherein the audio information is similar to sound generated by the user's voice.

18. The method according to claim 16, further comprising:
generating sound similar to a generic voice sample based on the received audio information.

19. The method according to claim 16, further comprising:
generating one or more stored sounds based on the received audio information.

20. The method according to claim 19, further comprising:
creating one or more multimedia components associated with said message content.

21. The method according to claim 20, wherein the multimedia component comprises image information.

22. The method according to claim 21, wherein the image information may be static or dynamic.

23. The method according to claim 21, wherein the synthesis of the image multimedia component further comprises:

identifying speech movement image feature; and

generating frames representing movement of said image features.

24. The method of claim 16, wherein the multimedia component comprises audio information and image information.

25. The method according to claim 24, wherein the synthesis of the audio and image multimedia components further comprises:

composing a phoneme sequence;

composing a mouth frame time sequence which matches the phoneme time sequence;

composing speech movement image frame sequence; and

combining the image and phoneme sequences.

26. The method according to claim 24, further comprising:

varying one or more of said components to convey one or more senses of said

message content.

27. The method according to claim 24, wherein the senses of said message content correspond to one or more sender emotions associated with said message.

28. The method according to claim 27, wherein the sender emotions are conveyed by manipulating one or more said image components.

5 29. The method according to claim 27, wherein the sender emotions are conveyed by manipulating one or more said audio information.

30. A system for preparing a multi-mail message for transmission over a network, comprising:

10 means for receiving data comprising textual content of said message;
means for creating one or more multimedia components associated with said message, wherein said multimedia component represents a likeness of a sender; and
means for synthesizing said multimedia components with said textual content.

15 31. The system according to claim 30, wherein the multimedia component comprises audio information.

32. The system according to claim 30, wherein the multimedia component comprises image information.

20 33. The system according to claim 32, wherein the image information may be static or dynamic.

34. The system according to claim 31, wherein the audio component comprises voice data that enables the generation of sounds similar to the user's voice.

35. The system according to claim 31, wherein the audio component comprises voice data that enables the generation of sounds similar to a generic voice sample.

36. The system according to claim 31, wherein the audio component comprises voice data that enables the generation of any stored sound.

37. The system according to claim 31 wherein the synthesis of the multimedia component containing audio information further comprises:

- means for parsing the audio information into sentences and for voice modulation controls;
- means for assigning voice modulation to audio information;
- means for sequencing phoneme and modulation information; and
- means for translating said phoneme sequence into a sound component sequence.

38. The system according to claim 39, wherein the synthesis of the image multimedia component further comprises:

- means for identifying speech movement image feature; and
- means for generating frames representing movement of said image features.

39. The system of claim 30, wherein the multimedia component comprises audio information and image information.

40. The system according to claim 39, wherein the synthesis of the audio and image multimedia components further comprises:

means for composing a phoneme sequence;

means for composing a mouth frame time sequence which matches the phoneme time sequence;

means for composing speech movement image frame sequence; and

means for combining the image and phoneme sequences.

41. The system according to claim 39, further comprising:

means for varying one or more of said components to convey one or more senses of said message content.

42. The system according to claim 41, wherein the senses of said message content correspond to one or more sender emotions associated with said message.

43. The system according to claim 42, wherein the sender emotions are conveyed by manipulating one or more said image components.

44. The system according to claim 42, wherein the sender emotions are conveyed by manipulating one or more said audio components.

45. The system for preparing a multi-mail message for transmission over a network, comprising:

means for receiving audio information relating to content of said message;

5 means for translating said audio information to text information; and

means for combining said audio information and text information in preparation of said transmission.

10 46. The system according to claim 45, wherein the audio information is similar to sound generated by the user's voice.

15 47. The system according to claim 45, further comprising:

means for generating sound similar to a generic voice sample based on the received audio information.

48. The system according to claim 45, further comprising:

means for generating one or more stored sounds based on the received audio information.

20 49. The system according to claim 48, further comprising:

means for creating one or more multimedia components associated with said message content.

50. The system according to claim 49, wherein the multimedia component comprises image information.

5 51. The system according to claim 50, wherein the image information may be static or dynamic.

52. The system according to claim 50, wherein the synthesis of the image multimedia component further comprises:

means for identifying speech movement image feature; and

10 means for generating frames representing movement of said image features.

53. The system of claim 45, wherein the multimedia component comprises audio information and image information.

15 54. The system according to claim 53, wherein the synthesis of the audio and image multimedia components further comprises:

means for composing a phoneme sequence;

means for composing a mouth frame time sequence which matches the phoneme time sequence;

20 means for composing speech movement image frame sequence; and

means for combining the image and phoneme sequences.

55. The system according to claim 53, further comprising:

means for varying one or more of said components to convey one or more senses of said message content.

56. The system according to claim 53, wherein the senses of said message content
5 correspond to one or more sender emotions associated with said message.

57. The system according to claim 56, wherein the sender emotions are conveyed by manipulating one or more said image components.

10 58. The system according to claim 56, wherein the sender emotions are conveyed by manipulating one or more said audio information.

59. A system for preparing a multi-mail message for transmission over a network,
comprising:
15 a database for receiving data comprising textual content of said message; and
a central processing unit configured for creating one or more multimedia
components associated with said message, wherein said multimedia component represents a
likeness of a sender, and for synthesizing said multimedia components with said textual content.

20 60. The system according to claim 59, wherein the multimedia component comprises audio information.

61. The system according to claim 59, wherein the multimedia component comprises image information.

5 62. The system according to claim 61, wherein the image information may be static or dynamic.

63. The system according to claim 60, wherein the audio component comprises voice data that enables the generation of sounds similar to the user's voice.

10 64. The system according to claim 60, wherein the audio component comprises voice data that enables the generation of sounds similar to a generic voice sample.

15 65. The system according to claim 60, wherein the audio component comprises voice data that enables the generation of any stored sound.

20 66. The system according to claim 60 wherein the central processing unit is further configured for parsing the audio information into sentences and for voice modulation controls, for assigning voice modulation to audio information, for sequencing phoneme and modulation information, and for translating said phoneme sequence into a sound component sequence.

67. The system according to claim 60, wherein the central processing unit is further configured for identifying speech movement image feature, and for generating frames representing movement of said image features.

68. The system of claim 59, wherein the multimedia component comprises audio information and image information.

5 69. The system according to claim 68, wherein the central processing unit is further configured for composing a phoneme sequence, for composing a mouth frame time sequence which matches the phoneme time sequence, for composing speech movement image frame sequence, and for combining the image and phoneme sequences.

10 70. The system according to claim 68, wherein the central processing unit is further configured for varying one or more of said components to convey one or more senses of said message content.

15 71. The system according to claim 70, wherein the senses of said message content correspond to one or more sender emotions associated with said message.

72. The system according to claim 71, wherein the central processing unit is further configured for manipulating one or more said image components to convey said sender emotions.

20 73. The system according to claim 71, wherein the central processing unit is further configured for manipulating one or more said audio components to convey said sender emotions.

74. The system for preparing a multi-mail message for transmission over a network,
comprising:

a database for receiving audio information relating to content of said message;

and

5 a central processing unit for translating said audio information to text information,
and for combining said audio information and text information in preparation of said
transmission.

10 75. The system according to claim 74, wherein the audio information is similar to
sound generated by the user's voice.

15 76. The system according to claim 74, wherein the central processing unit is further
configured for generating sound similar to a generic voice sample based on the received audio
information.

77. The system according to claim 74, wherein the central processing unit is further
configured for generating one or more stored sounds based on the received audio information.

20 78. The system according to claim 77, wherein the central processing unit is further
configured for creating one or more multimedia components associated with said message
content.

79. The system according to claim 78, wherein the multimedia component comprises image information.

80. The system according to claim 79, wherein the image information may be static or
5 dynamic.

81. The system according to claim 79, wherein the central processing unit is further configured for identifying speech movement image feature, and for generating frames representing movement of said image features.

10 82. The system of claim 74, wherein the multimedia component comprises audio information and image information.

15 83. The system according to claim 82, wherein the central processing unit is further configured for composing a phoneme sequence, for composing a mouth frame time sequence which matches the phoneme time sequence, for composing speech movement image frame sequence, and for combining the image and phoneme sequences.

20 84. The system according to claim 82, wherein the central processing unit is further configured for varying one or more of said components to convey one or more senses of said message content.

85. The system according to claim 82, wherein the central processing unit is further configured for varying one or more of said components to convey one or more senses of said message content.

5 86. The system according to claim 85, wherein the senses of said message content correspond to one or more sender emotions associated with said message.

10 87. The system according to claim 85, wherein the central processing unit is further configured for manipulating one or more said image components to convey said sender emotions.

15 88. Computer executable software code stored on a computer readable medium, the code for preparing a multi-mail message for transmission over a network, comprising:

code to receive data comprising textual content of said message;

code to create one or more multimedia components associated with said message, wherein said multimedia component represents a likeness of a sender; and

code to synthesize said multimedia components with said textual content.

20 89. Computer executable software code stored on a computer readable medium, the code for preparing a multi-mail message for transmission over a network, comprising:

code to receive audio information relating to content of said message;

code to translate said audio information to text information; and

code to combine said audio information and text information in preparation of said transmission.

90. A programmed computer for preparing a multi-mail message for transmission over a network, comprising:

a memory having at least one region for storing computer executable program code; and

a processor for executing the program code stored in memory, wherein the program code includes:

code to receive data comprising textual content of said message;

code to create one or more multimedia components associated with said message, wherein said multimedia component represents a likeness of a sender; and

code to synthesize said multimedia components with said textual content.

91. A programmed computer for preparing a multi-mail message for transmission over a network, comprising:

a memory having at least one region for storing computer executable program code; and

a processor for executing the program code stored in memory, wherein the program code includes:

code to receive audio information relating to content of said message;

code to translate said audio information to text information; and

code to combine said audio information and text information in preparation of said transmission.

92. A computer readable medium having computer executable software code stored thereon, the code for preparing a multi-mail message for transmission over a network, comprising:

code to receive data comprising textual content of said message;

code to create one or more multimedia components associated with said message,

wherein said multimedia component represents a likeness of a sender; and

code to synthesize said multimedia components with said textual content.

93. A computer readable medium having computer executable software code stored thereon, the code for preparing a multi-mail message for transmission over a network, comprising:

code to receive audio information relating to content of said message;

code to translate said audio information to text information; and

code to combine said audio information and text information in preparation of said transmission.

ABSTRACT

5 A multi-mail system and method is disclosed in which a sender may convey and a
recipient can realize emotional aspects associated with substantive content of a multi-mail
message by receiving a message that is more than textual in nature. Voice recognition
technology and programmatic relation of sound and graphics may be used to produce a talking
image. In one embodiment, the image may include the user's own visual and/or audio likeness.
10 In an alternate embodiment, the image may comprise any available visual and/or audio display
selected by the user. The multi-mail message may be inputted by a user in a text format and
transposed into a format including the selected image and/or voice. In an alternate embodiment,
a spoken message may be converted into a format including the selected image and/or voice.
The formatted messages are then stored and/or transmitted via an email system or some other
15 electronic network.

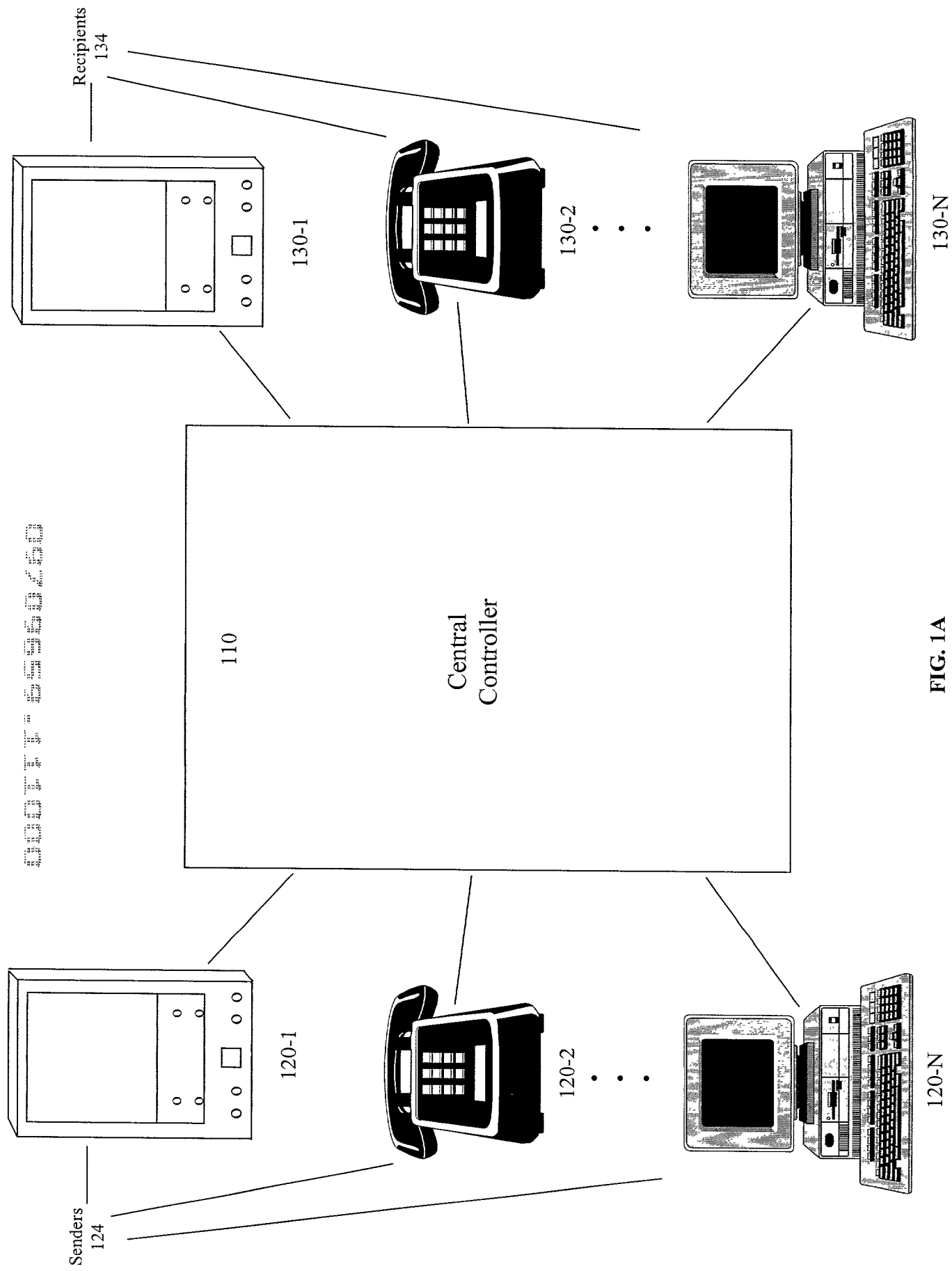


FIG. 1A

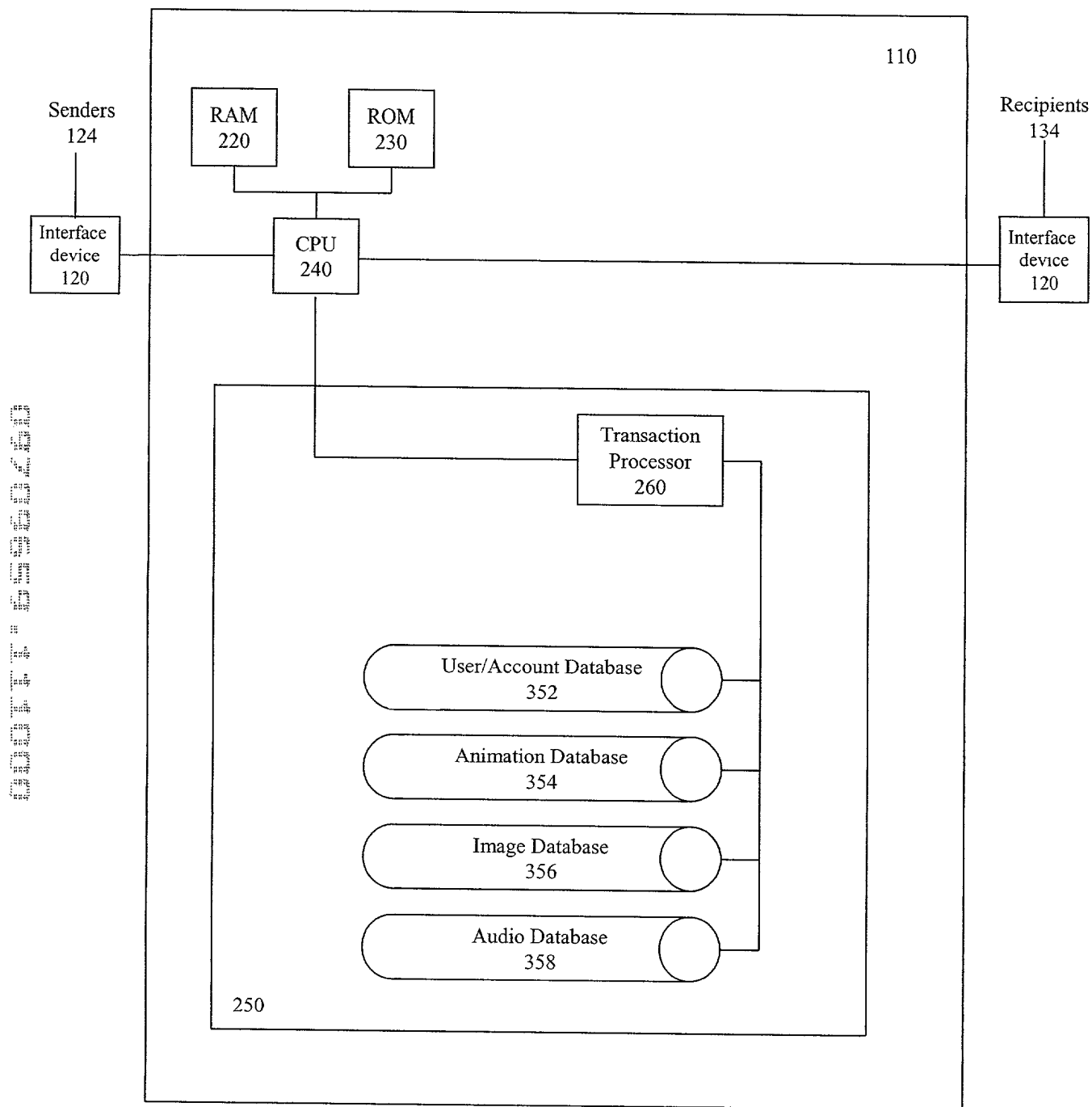


FIG. 1B

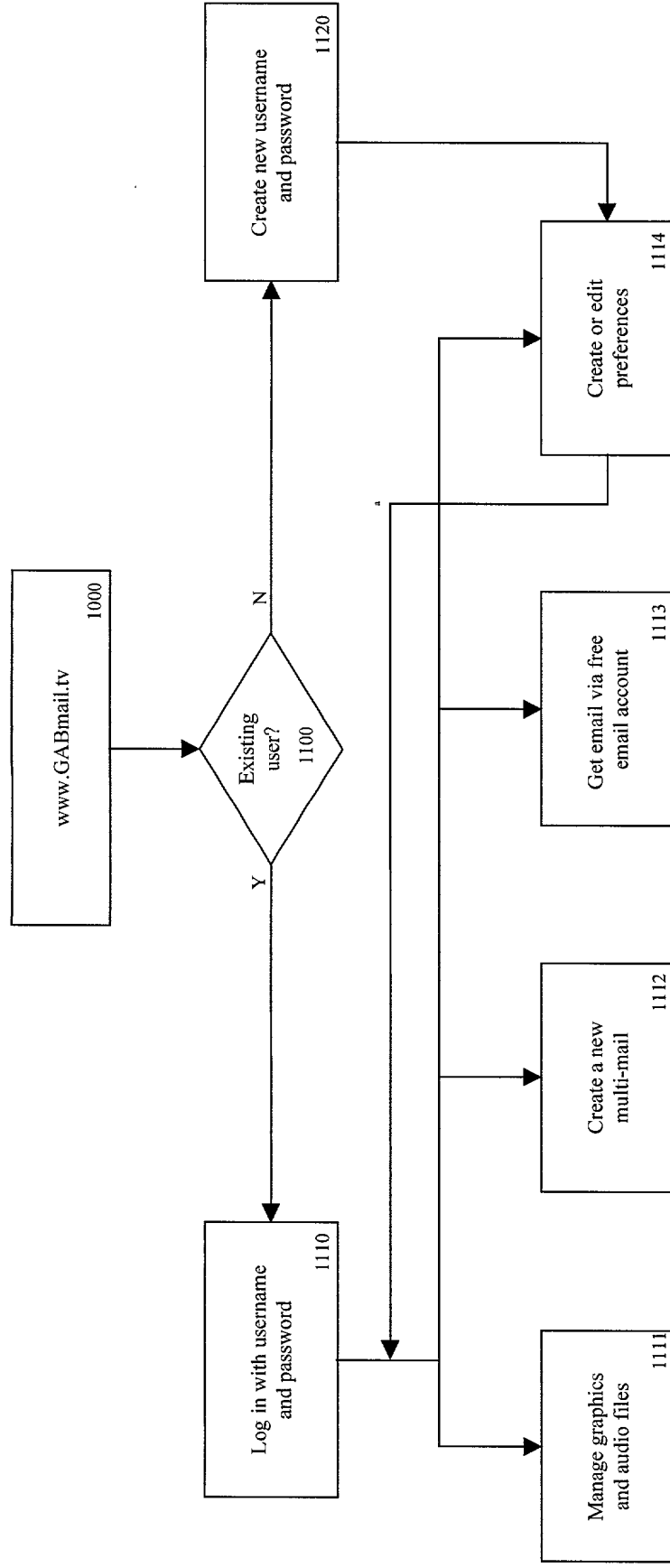


FIG. 2

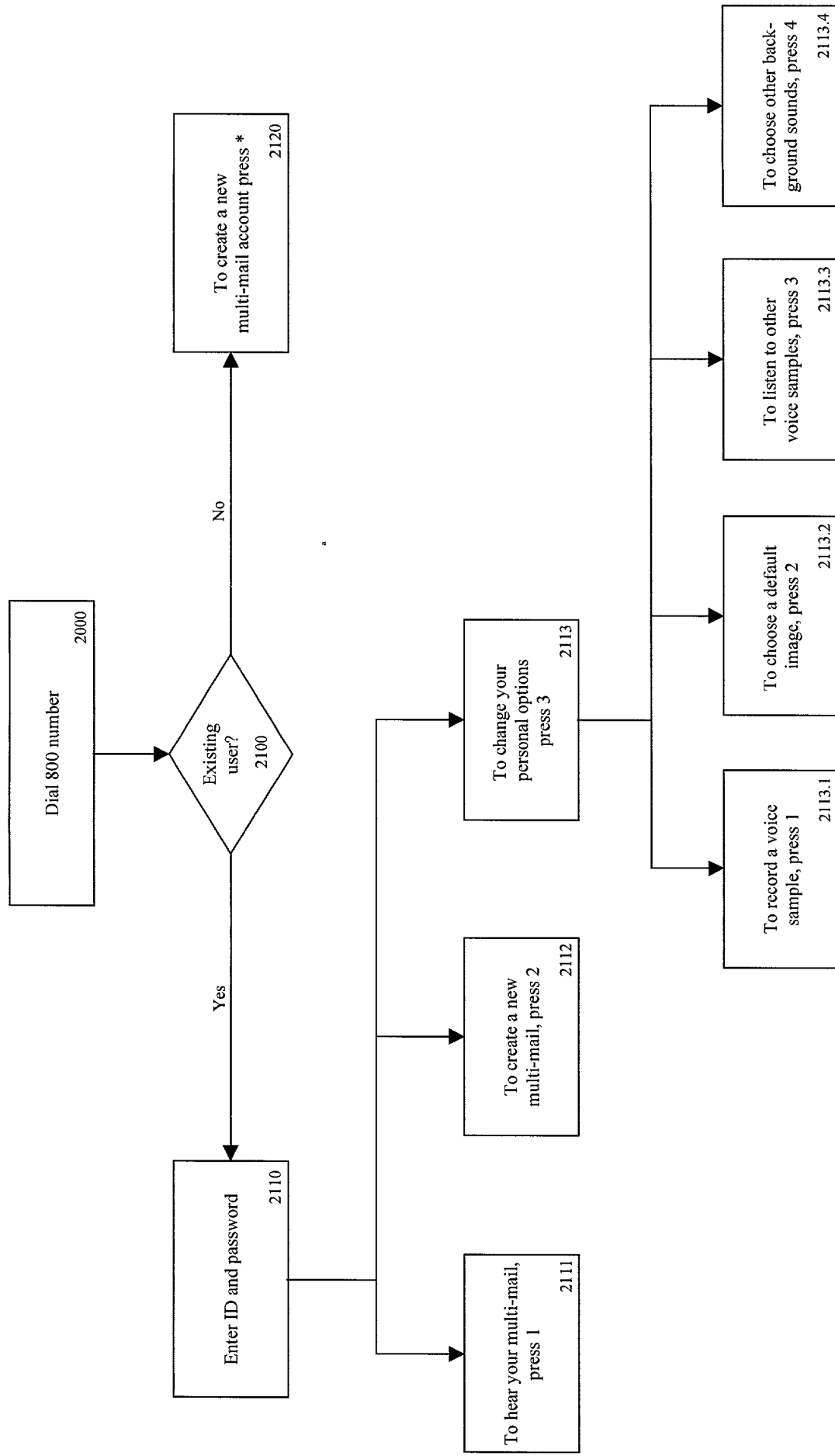


FIG. 3

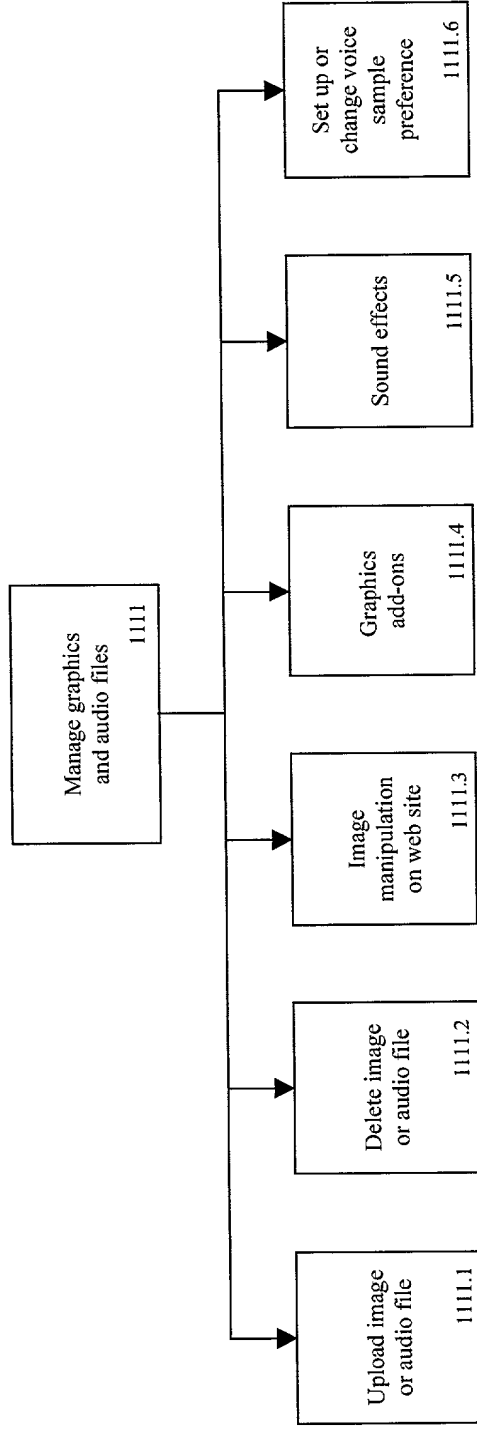
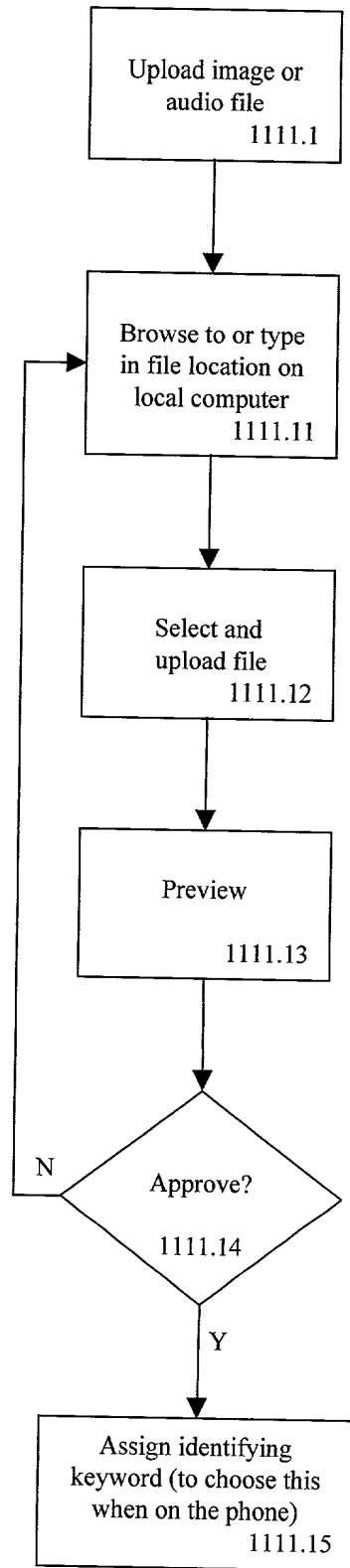


FIG. 4



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FIG. 5

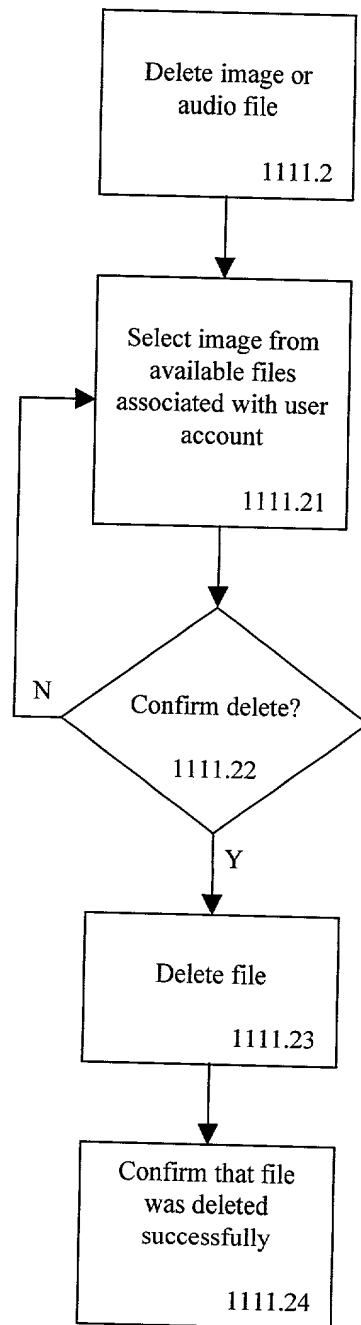


FIG. 6

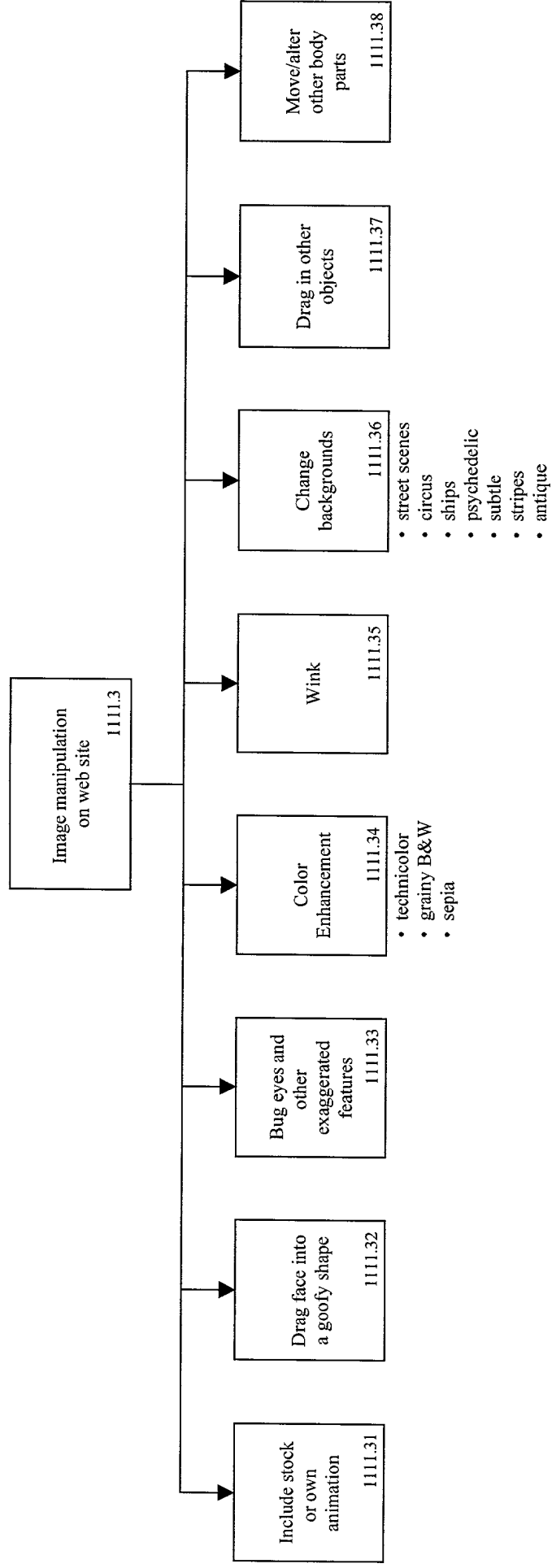


FIG. 7

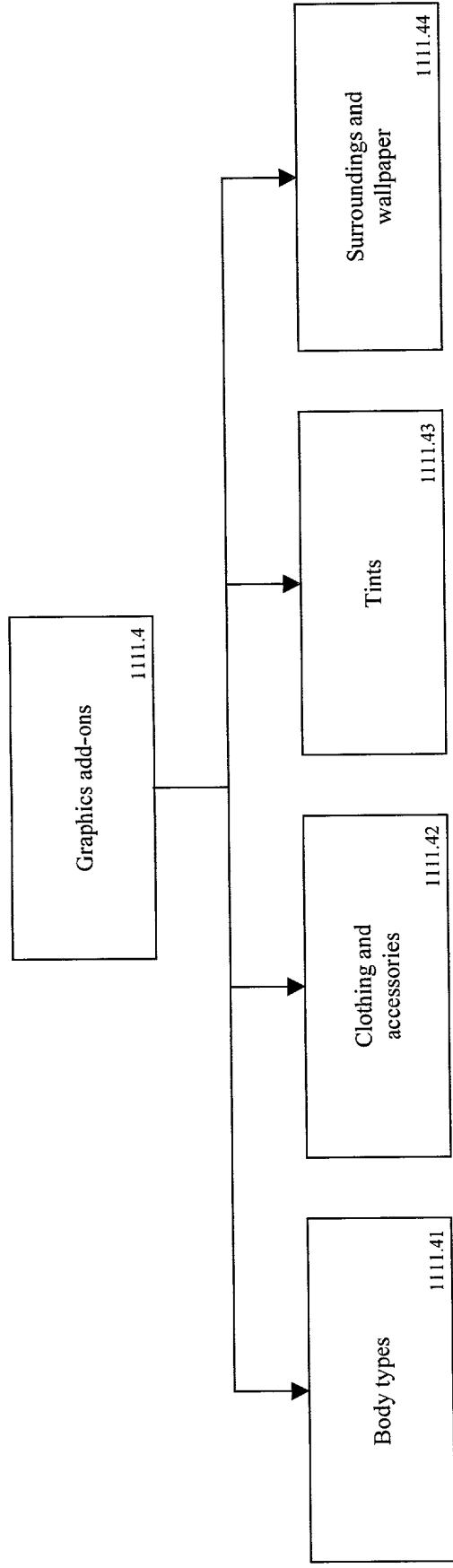


FIG. 8

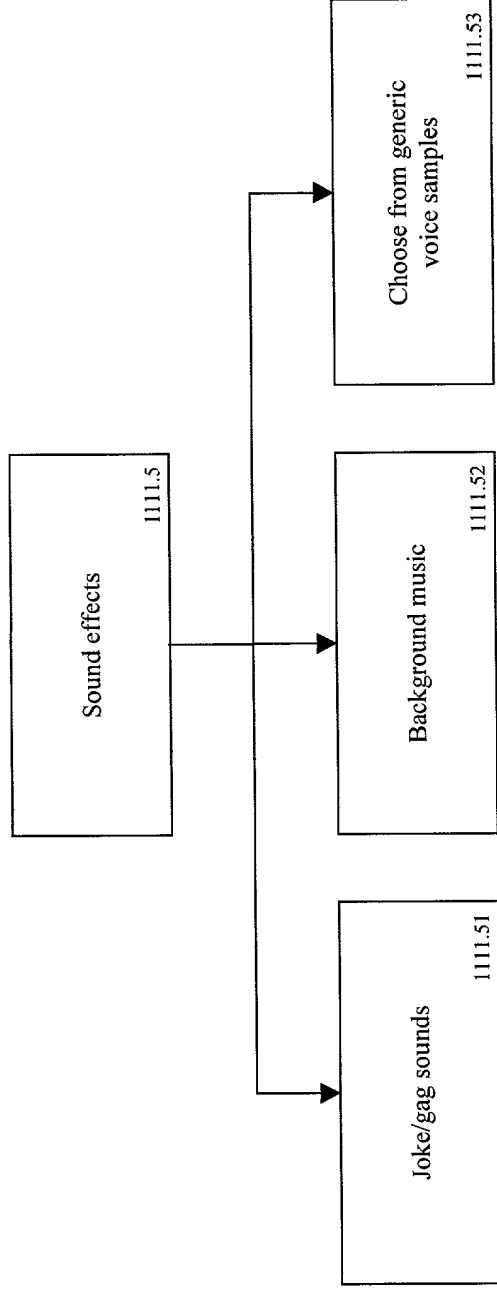


FIG. 9

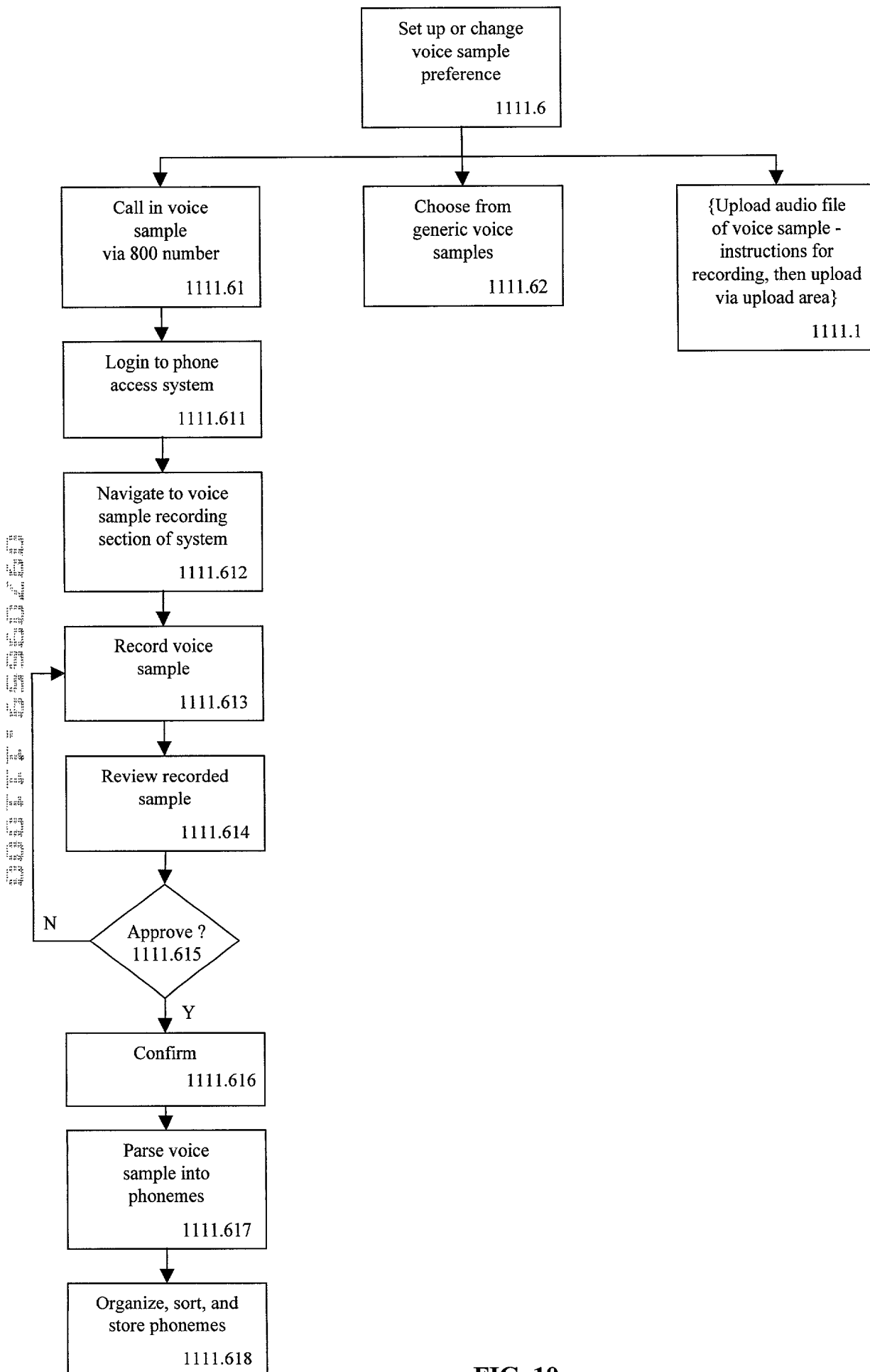


FIG. 10

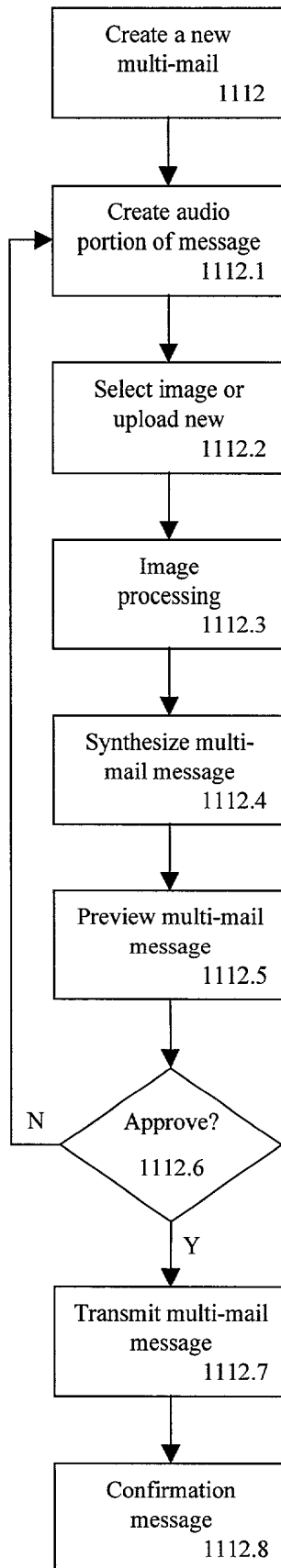


FIG. 11

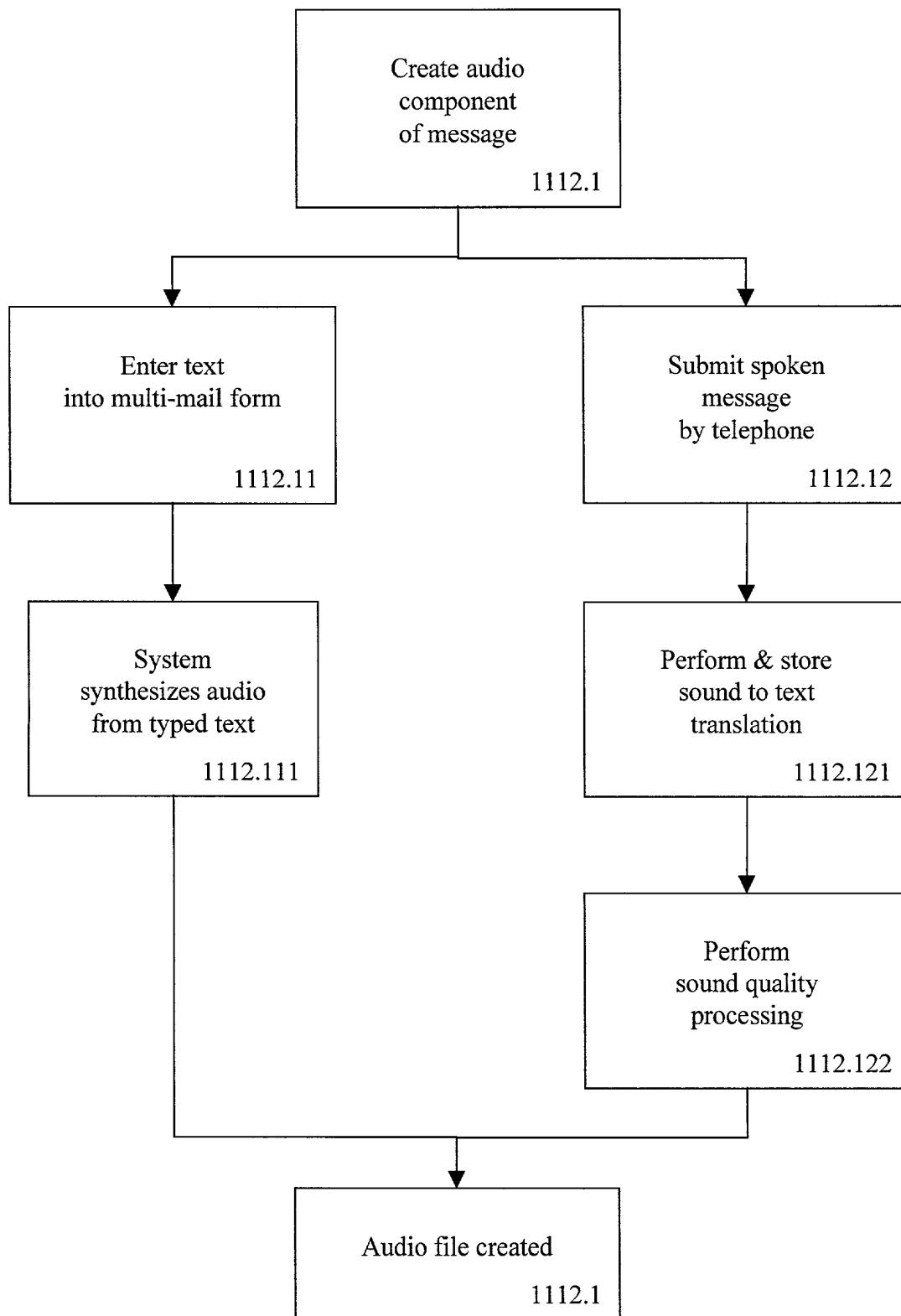


FIG. 12

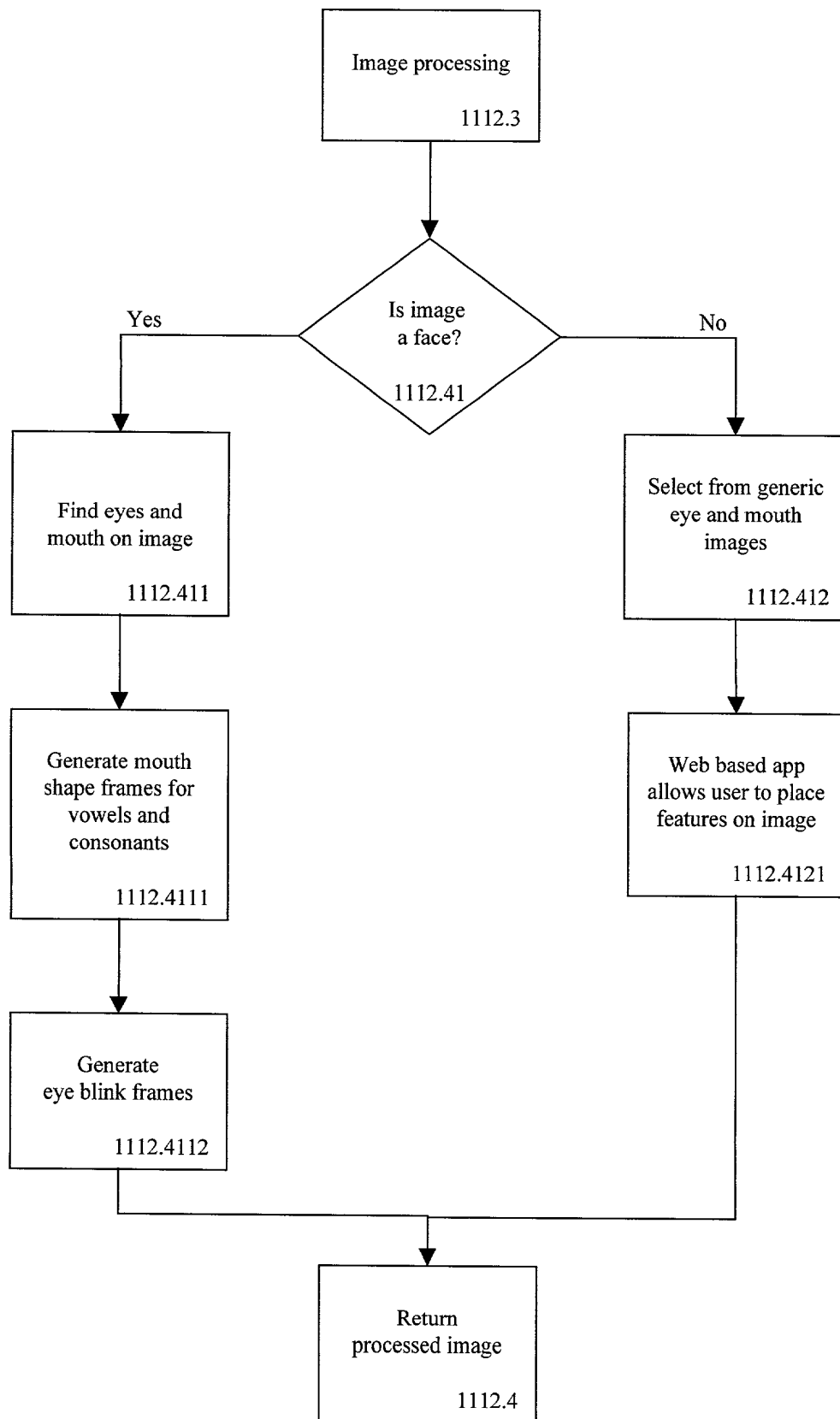


FIG. 13

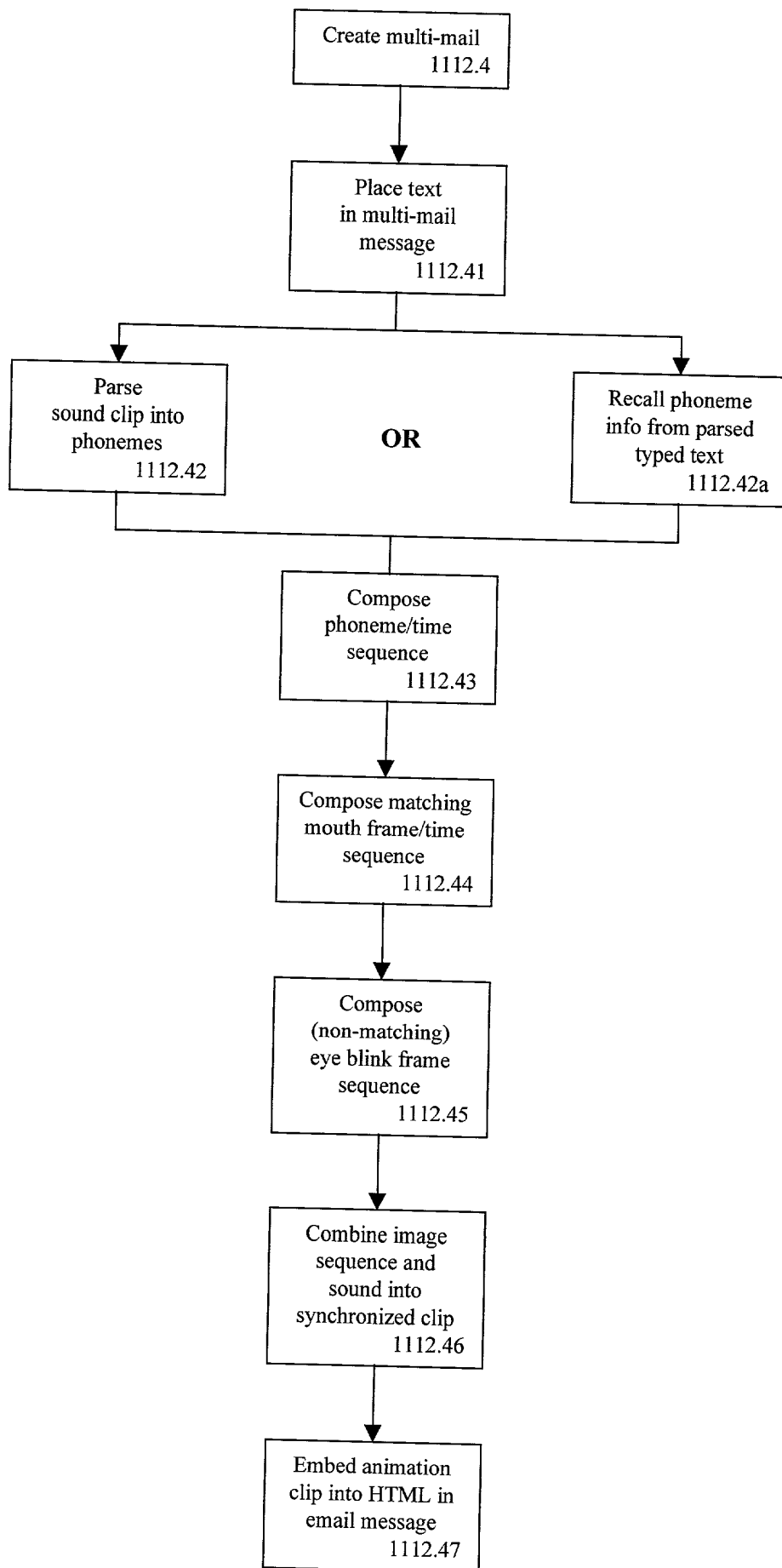


FIG. 14

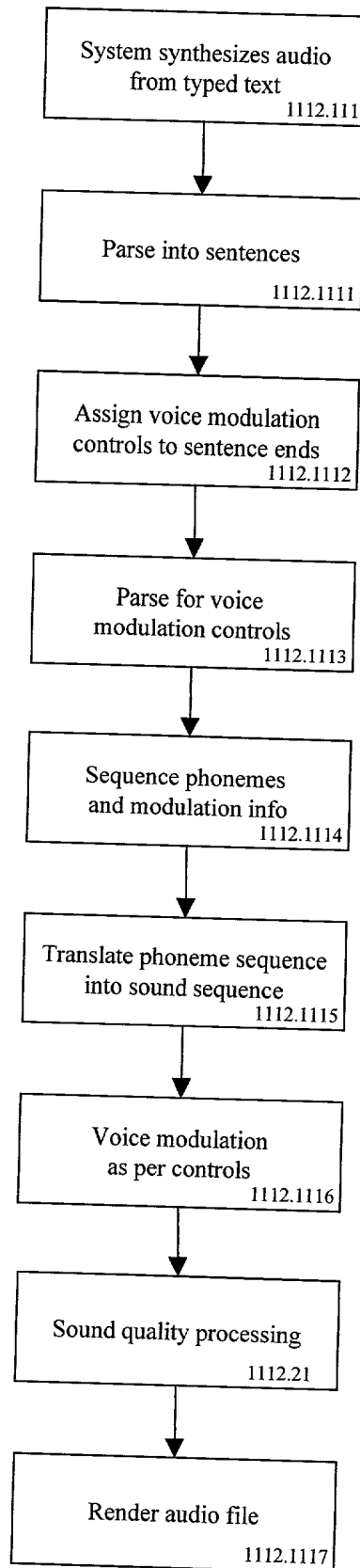


FIG. 15

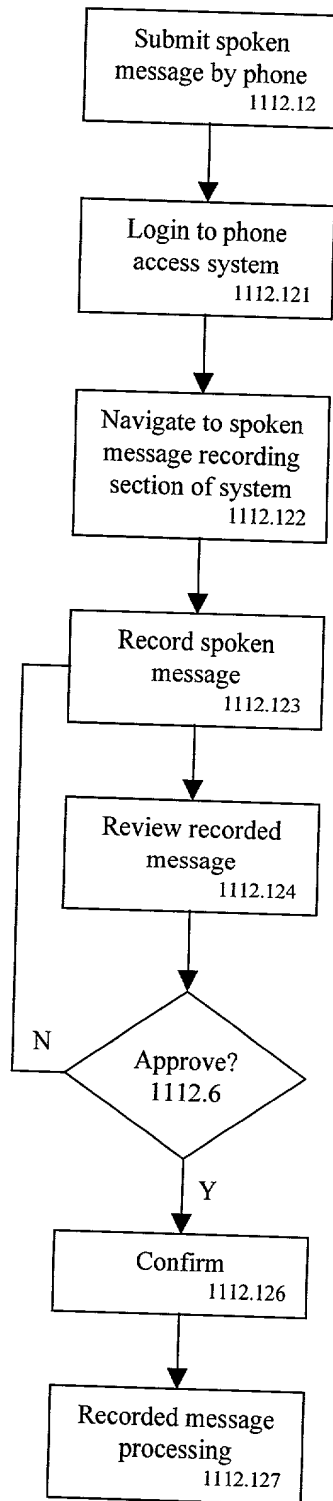


FIG. 16

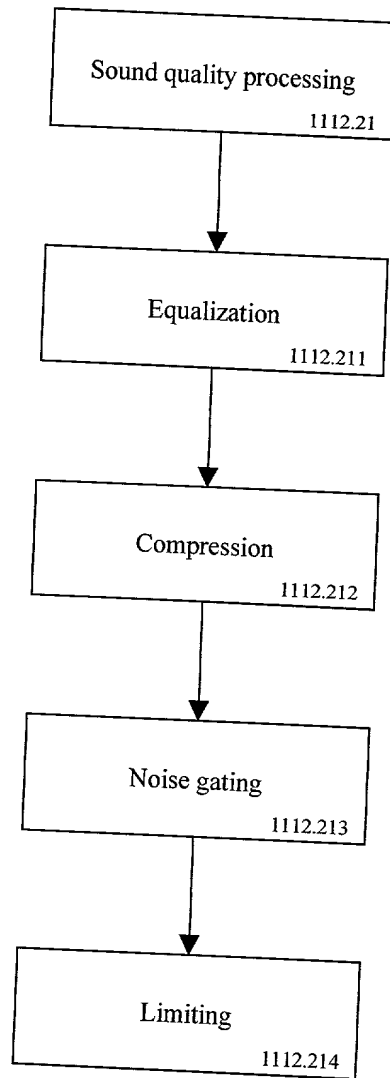


FIG. 17

COMBINED DECLARATION AND POWER OF ATTORNEY FOR
ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL
DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART APPLICATION

As a below name inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

ELECTRONIC MAIL METHOD AND SYSTEM USING ASSOCIATED AUDIO AND VISUAL TECHNIQUES
the specification of which

a. ☒ is attached hereto

b. ☐ was filed on _____ as application Serial No. _____ and was amended on _____ (if applicable).

PCT FILED APPLICATION ENTERING NATIONAL STAGE

c. ☐ was described and claimed in International Application No. _____ filed on _____ and as amended on _____. (if any).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby specify the following as the correspondence address to which all communications about this application are to be directed:

SEND CORRESPONDENCE TO: MORGAN & FINNEGAN, L.L.P
345 Park Avenue
New York, N.Y. 10154

DIRECT TELEPHONE CALLS TO: Mark J. Schildkraut
(212) 758-4800

☐ I hereby claim foreign priority benefits under Title 35, United States Code § 119(a)-(d) or under § 365(b) of any foreign application(s) for patent or inventor's certificate or under § 365(a) of any PCT international application(s) designating at least one country other than the U.S. listed below and also have identified below such foreign application(s) for patent or inventor's certificate or such PCT international application(s) filed by me on the same subject matter having a filing date within twelve (12) months before that of the application on which priority is claimed:

☐ The attached 35 U.S.C. § 119 claim for priority for the application(s) listed below forms a part of this declaration.

<u>Country/PCT</u>	<u>Application Number</u>	<u>Date of filing (day, month, yr)</u>	<u>Date of Issue (day, month, yr)</u>	<u>Priority Claimed</u>
				<input type="checkbox"/> YES <input type="checkbox"/> NO
				<input type="checkbox"/> YES <input type="checkbox"/> NO
				<input type="checkbox"/> YES <input type="checkbox"/> NO

☐ I hereby claim the benefit under 35 U.S.C. § 119(e) of any U.S. provisional application(s) listed below.

Provisional Application No.

Date of Filing (day, month, yr)

**ADDITIONAL STATEMENTS FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART
OR PCT INTERNATIONAL APPLICATION(S) (DESIGNATING THE U.S.)**

I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s) or under § 365(c) of any PCT international application(s) designating the U.S. listed below.

<u>US/PCT Application Serial No.</u>	<u>Filing Date</u>	<u>Status (patented, pending, abandoned)/ U.S. application no. assigned (For PCT)</u>

☐ In this continuation-in-part application, insofar as the subject matter of any of the claims of this application is not disclosed in the above listed prior United States or PCT international application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or Imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

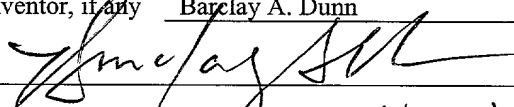
I hereby appoint the following attorneys and/or agents with full power of substitution and revocation, to prosecute this application, to receive the patent, and to transact all business in the Patent and Trademark Office connected therewith: John A. Diaz (Reg. No. 19,550), John C. Vassil (Reg. No. 19,098), Alfred P. Ewert (Reg. No. 19,887), David H. Pfeffer (Reg. No. 19,825), Harry C. Marcus (Reg. No. 22,390), Robert E. Paulson (Reg. No. 21,046), Stephen R. Smith (Reg. No. 22,615), Kurt E. Richter (Reg. No. 24,052), J. Robert Dailey (Reg. No. 27,434), Eugene Moroz (Reg. No. 25,237), John F. Sweeney (Reg. No. 27,471), Arnold I. Rady (Reg. No. 26,601), Christopher A. Hughes (Reg. No. 26,914), William S. Feiler (Reg. No. 26,728), Joseph A. Calvaruso (Reg. No. 28,287), James W. Gould (Reg. No. 28,859), Richard C. Komson (Reg. No. 27,913), Israel Blum (Reg. No. 26,710), Bartholomew Verdirame (Reg. No. 28,483), Maria C.H. Lin (Reg. No. 29,323), Joseph A. DeGirolamo (Reg. No. 28,595), Michael P. Dougherty (Reg. No. 32,730), Seth J. Atlas (Reg. No. 32,454), Andrew M. Riddles (Reg. No. 31,657), Bruce D. DeRenzi (Reg. No. 33,676), Michael M. Murray (Reg. No. 32,537), Mark J. Abate (Reg. No. 32,527), John T. Gallagher (Reg. No. 35,516), Steven F. Meyer (Reg. No. 35,613), Kenneth H. Sonnenfeld (Reg. No. 33,285), Tony V. Pezzano (Reg. No. 38,271), Andrea L. Wayda (Reg. No. 43,979) and Walter G. Hanchuk Reg. No. (35,179) of Morgan & Finnegan, L.L.P. whose address is: 345 Park Avenue, New York, New York, 10154; and Michael S. Marcus (Reg. No. 31,727) and John E. Hoel (Reg. No. 26,279) of Morgan & Finnegan, L.L.P., whose address is 1775 Eye Street, Suite 400, Washington, D.C. 20006.

[] I hereby authorize the U.S. attorneys and/or agents named hereinabove to accept and follow instructions from _____ as to any action to be taken in the U.S. Patent and Trademark Office regarding this application without direct communication between the U.S. attorneys and/or agents and me. In the event of a change in the person(s) from whom instructions may be taken I will so notify the U.S. attorneys and/or agents hereinabove.

Full name of sole or first inventor Adam Roth
 Inventor's signature* [Signature] date 11/10/2000
 Residence 176 LUDLOW ST. Apt. 2EF New York, NY 10002
 Citizenship US
 Post Office Address Same as residence address above

Full name of second joint inventor, if any Geoffrey O'Sullivan
 Inventor's signature* [Signature] date 11/10/2000
 Residence 116 Suffolk St. Apt. 2 New York, NY 10002
 Citizenship Irish
 Post Office Address Same as residence address above

Full name of third joint inventor, if any Barclay A. Dunn

Inventor's signature*  11/10/2000
date

Residence 15 W 12 ST #40A, New York, NY 10011

Citizenship USA

Post Office Address Same as residence address above

[] ATTACHED IS/ARE ADDED PAGE(S) TO COMBINED DECLARATION AND POWER OF ATTORNEY FORM FOR SIGNATURE BY FOURTH AND SUBSEQUENT INVENTORS

* Before signing this declaration, each person signing must:

1. Review the declaration and verify the correctness of all information therein; and
2. Review the specification and the claims, including any amendments made to the claims.

After the declaration is signed, the specification and claims are not to be altered.

To the inventor(s):

The following are cited in or pertinent to the declaration attached to the accompanying application:

Title 37, Code of Federal Regulation, § 1.56

Duty to disclose information material to patentability.

(a) A patent by its very nature is affect with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and

- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

Title 35, U.S. Code § 101

Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Title 35 U.S. Code § 102

Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent,
- (b) the invention was patented or described in a printed publication in this or foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States, or
- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g) before the applicant's invention thereof the invention was made in this country by another had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other ...

Title 35, U.S. Code § 103

Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

ordinary skill in the art to which said matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Title 35, U.S. Code § 112 (in part)

Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms also enable any person skilled in the art to which it pertains, or with which it is mostly nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Title 35, U.S. Code § 119

Benefit of earlier filing date in foreign country; right of priority

An application for patent for an invention filed in this country by any person who has, or whose legal representatives or assigns have, previously regularly filed an application for a patent for the same invention in a foreign country which affords similar privileges in the case of applications filed in the United States or to citizens of the United States, shall have the same effect as the same application would have if filed in this country on the date on which the application for patent for the same invention was first filed in such foreign country, if the application in this country is filed within twelve months from the earliest date on which such foreign application was filed; but no patent shall be granted on any application for patent for an invention which had been patented or described in a printed publication in any country more than one year before the date of the actual filing of the application in this country, or which had been in public use or on sale in this country more than one year prior to such filing.

Title 35, U.S. Code § 120

Benefit of earlier filing date in the United States

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States, or as provided by section 363 of this title, which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application.

Please read carefully before signing the Declaration attached to the accompanying Application.

If you have any questions, please contact Morgan & Finnegan, L.L.P.

FORM:COMB-DEC.NY
Rev. 10/00